

**Old Wine in New Bottles:**  
New Graphic Symbols for Chanting  
the Modal Motifs of Jewish Liturgy

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Saskatoon, SK, Canada

by

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# Old Wine in New Bottles: New Graphic Symbols for Chanting the Modal Motifs of Jewish Liturgy

## Abstract

Two challenges exist for learning Jewish Liturgical Chant: the fact that traditional modal chants are relatively inaccessible for those who do not read notated music, and the problem of how to indicate phrases within liturgical texts for those who do not know Classical Hebrew grammar. This presentation and analysis of *Simanei Nusach*, a new system of graphic symbols for Jewish Liturgical Chant, addresses both of these concerns.

If an adult lay religious leader is learning to lead worship services, and he or she does not read notated music, the primary methodology for learning has been rote memorization of modal musical motifs. Sources of these traditional modal musical motifs have been an experienced teacher, recordings, teaching software, and Internet resources on Jewish Liturgical Chant.

If a person who is leading Jewish worship services does not know Hebrew grammar, the only indications for phrasing liturgical texts have been commas in Jewish prayerbooks, and the musical lines of the modal musical motifs. Some modal motifs indicate that the chant begins a sentence or continues a thought, while other motifs indicate the end of a phrase or a sentence.

During the 800's C.E. in Israel, a family of Biblical scholars addressed these concerns for chanting the Hebrew Bible. These *Masoretes* developed a system of graphic symbols indicating punctuation of Biblical phrases, accentuation of words, and the chant of the Bible texts. These *Trope* symbols in a printed Jewish Bible also serve as a teaching tool for Biblical Cantillation.

At the turn of the 21st century, there was no widely-accepted set of graphic symbols that shows the phrasing and modal musical motifs of chanted Jewish liturgy. While preparing teaching materials for adult lay religious leaders who do not read notated music, this author developed a new set of graphical symbols, *Simanei Nusach* (Symbols of Prayer-chant), to indicate the modal musical motifs and the Hebrew text phrasing of Jewish Liturgical Chant.

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## Preface and Acknowledgements

In traditional Jewish worship services, Biblical texts and liturgical texts are chanted in Hebrew. These chants are based on Jewish prayer-modes, using musical motifs within these modes to express the meanings of Biblical and liturgical texts. Notated music on staff-lines was not yet available when these chants were developed, and electronic recording equipment has only been available for somewhat over a century. *How were the ancient oral traditions of sacred chant passed on during the frequent migrations of Jewish communities?*

A system of *graphic symbols* that communicate punctuation, accentuation, and intonation (or chanting) was applied during the 800's C.E. in Tiberias to the texts of the Hebrew Bible. These "Trope" Cantillation symbols help codify the *meaning* of Biblical texts, by establishing accepted *phrasing* and *accents* of the Hebrew. Vowels were also added to the consonantal Bible text at this time, and a system of marginal notes was developed by the Tiberian Masoretes for the entire Hebrew Bible (in Codex format) to provide a detailed system of *textual emendation*.

Until the end of the 20th century, there was no widely-accepted system of graphic symbols for Hebrew texts of traditional Jewish Liturgical Chant. There was one attempt in the 1970's to establish such a system, but this was not generally accepted. There were no known attempts to use graphic symbols in liturgical teaching software, nor for online teaching of Jewish liturgy.

New graphical symbols discussed in this M.A. Thesis were developed for Hebrew liturgical texts, to give visual clues about musical motifs in the chants of the Prayer-modes. These new symbols are assigned to the texts phrase-by-phrase, so they also (like Biblical Trope) serve to delineate the punctuation and syntax of the Hebrew prayer-texts, thus indicating aspects of their meaning. It is hoped that in the future, this new system of graphical symbols, *Simanei Nusach* (Symbols of Prayer-chant), will find acceptance and use not only in the teaching software that currently incorporates their use, but also in the general teaching of Jewish Liturgical Chant.

This document contains context for the analysis of this new graphic system. Chapter 1 presents introductory material and a brief historical background to provide context for Jewish chant. Chapter 2 shows why this new system of graphic symbols is needed to teach lay leaders Jewish Liturgical Chant. Chapter 3 is background material on Classical Hebrew for all types of Jewish chant, and Cantillation of the Hebrew Bible as the context for Jewish Liturgical Chant.

Chapter 4 presents the structure of Jewish Liturgy, and the modal chant of musical motifs as the *context* for this new graphical system. Chapter 5 presents an analysis of the use, functions, details, and revised schema of *Simanei Nusach*, the new system of graphic symbols developed by this author for teaching and chanting the modal musical motifs of Jewish liturgy.

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When acknowledging those who contributed to an endeavor, an author may forget someone important who made a significant contribution. Despite this risk, one can only attempt to thank those who have provided ideas, reactions, information, suggestions, and comradeship during the long journey of this M.A. Thesis. If anyone is inadvertently neglected in this acknowledgement, please accept this author's humble apologies and sincere thanks for your contributions.

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Note: "**Old Wine in New Bottles**" is a reversal of a phrase in Matthew 9:17, Mark 2:22, and Luke 5:37. In this context, "old wine" is Jewish sacred chant, and "new bottles" are the modern technologies such as teaching software and *Simanei Nusach* graphic symbols.

## Thesis Summary:

An academic analysis of a new system of graphic symbols, *Simanei Nusach* (Symbols of Prayer-chant), for the text phrasing and modal musical motifs of Jewish Liturgical Chant.

## Thesis Question:

How can basic modal musical motifs of Jewish Musical Prayer-modes (*Nusach HaT'fillah*) be shown in a new system of graphic symbols, based on the Trope of Biblical Cantillation?

## Hypothesis:

It is possible to represent basic modal musical motifs that are chanted in Jewish liturgy through a system of graphic symbols that reflect the phrasing and meaning of Hebrew liturgical texts.

Cantor Neil Schwartz teaching the United Synagogue *IMUN Program* to adult lay leaders in July 2005 at Camp Ramah in the Berkshires, with six of his first seven new graphic symbols.



# Chapter 1 – Introduction and Historical Background

## 1.1 Introduction and reasons for creating new graphic symbols

Biblical and liturgical chants are used during worship in Jewish communities worldwide. There is increasing interest of lay religious leadership to chant from the Hebrew Bible and prayerbooks. Graphic symbols (Trope) in the Hebrew Bible show punctuation and accents, thereby codifying meaning. New graphic symbols were developed by this author for Jewish Liturgical Chant to show text phrasing and modal musical motifs. These new symbols have been incorporated in teaching software<sup>1</sup>, and used during online teaching<sup>2</sup> of sacred chant.

### 1.1.1 Why graphic symbols were created for Jewish Liturgical Chant

This M.A. Thesis presents a new system of graphical symbols for Jewish liturgy, and an analysis of how they function to indicate the phrasing and meaning of Hebrew prayers. The impetus for developing this new system arose during intensive summer retreats, in which this author taught adult lay religious leaders how to chant Biblical and liturgical texts. These advanced learning retreats were the annual *IMUN Program* of United Synagogue, which met during the summers of 1991 through 2008 at Camp Ramah in the Berkshires. This author was the Lead Teacher during the summer of 2003, summers 2005-2008, and Winter 2009.

It became clear that only about half of these adult students could read notated music. For those who could not read notated music, their main resources for learning the chant of these Biblical and liturgical texts were class work, recorded examples prepared by this author, and computer teaching software<sup>3</sup>. Biblical texts are marked with graphic symbols called "Trope" that were developed 1,200 years ago. Students could learn to chant these symbols, and then use those symbols and musical motifs to chant various texts of the Hebrew Bible. The challenge for teaching Jewish Liturgical Chant was to find a way to communicate the text phrasing and modal musical motifs through the visual means of graphic symbols, rather than through rote learning.

In 2003, there were no widely-accepted graphic symbols available for Hebrew liturgical texts. One serious attempt was made in the 1970's to establish graphic symbols<sup>4</sup>, but it did not receive wide acceptance among Jewish professionals. It also was not suitable for new teaching

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<sup>1</sup> Buchler, Thomas. *Tefillah Trainer*™. New York: Kinnor Software, 2002 / 2012.

<sup>2</sup> Schwartz, Neil. *How to Lead Shabbat Services*. Boston: Hebrew College Online, Spring Term 2011 and 2013; *How to Lead High Holy Days Services*, Spring Term 2012; *Introduction to Nusach*, Spring 2010.

<sup>3</sup> Buchler, *Tefillah Trainer*™, Kinnor, *op cit*.

<sup>4</sup> Frankel, R. "A New Approach to Teaching Nusach Hatefillah." *Proceedings, CA 29th Conv.* May 1976, 138-159.

software<sup>5</sup> that was being developed in 2004 and 2005. By the summer of 2005, this author had developed a pilot system of seven new graphic symbols that were used in the *IMUN Program*. By the summer of 2007, eighteen new graphic symbols were used for modal musical motifs in *Tefillah Trainer™*, the new software program for teaching Jewish Liturgical Chant.

This M.A. Thesis is an analysis of these new graphic symbols, how they indicate phrases of Hebrew liturgical texts, and how they indicate the modal musical motifs of chanted Jewish liturgy. Background material includes information on teaching sacred chant, Hebrew grammar, Biblical Cantillation, structure of Jewish Liturgy, and modal musical motifs of liturgical chant. To set the context for these, this Introduction will provide brief historical background on the migrations of the Jewish People through the centuries, and how that has affected sacred chant.

There are boundaries for the scope of this paper. Temporal boundary: the music of ancient Israel is mentioned briefly only as it is relevant to the development of Jewish Liturgical Chant. Spatial boundary: in the discussion of other cultures' modal music that shares characteristics with Jewish sacred music, the music of China and Japan are not included. Academic boundary: semiotics and musical semantics are only two vehicles for analysis of the functions of *Simanim*. Jewish boundary: sacred music of Eastern European Ashkenazic Jewry and their descendants. Musical boundary: *a capella* single-line sacred chant; not harmony, rhythm, nor instruments.

### **1.1.2 Some necessary characteristics of new graphic symbols**

Biblical Cantillation symbols show punctuation, accentuation, and intonation (chant motifs) for the texts of the Hebrew Bible. Based on that system of graphic symbols developed in the 800's C.E. by the Tiberian Masoretes, the following criteria and characteristics were necessary for the development of new *Simanei Nusach* graphic symbols of Jewish Liturgical Chant:

- 1) They must be relevant to all basic musical motifs of liturgical chant
- 2) They must function similarly in all musical modes of *Nusach HaT'fillah*
- 3) They must reflect the phrasing and punctuation of liturgical texts
- 4) They must work in teaching software and online education formats
- 5) They must be placed directly on the Hebrew liturgical texts that are chanted
- 6) Ideally their shape would reflect their motivic musical functions in phrases
- 7) They must be easily learned by lay leaders who do not read notated music

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<sup>5</sup> Buchler, *Tefillah Trainer™*, Kinnor, *op cit*.

## 1.2 Terminology, abbreviations, and transliteration

Within the related fields of Religion and Culture, an academic paper such as this contains specialized terms. It is worthwhile to mention how certain terms are being used in this paper, because in other contexts these same terms may have different meanings.

### 1.2.1 Specialized Terminology used in this M.A. Thesis

- Cantor:** In the Jewish religion, a professionally trained Cantor is a fully-certified clergy-person. There are lay leaders who are called "Cantor" in their congregations, but it is the combination of professional training and accreditation by one of the three professional cantorial groups that conveys status as clergy for taxes and pensions.
- Trope:** In the field of Jewish sacred chant, "Trope" is one of the terms that designate the graphic symbols in a printed Hebrew Bible. This is a group of 27 symbols above and below the Hebrew words, and their functions are to delineate the punctuation, accentuation, and intonation (chant) of the various sections in the Hebrew Bible.
- Bible books:** In the Hebrew Bible, the number of separate books is often presented as only 24, rather than 39. The following books are considered to be only one: 1 & 2 Samuel, 1 & 2 Kings, 1 & 2 Chronicles, Ezra & Nehemiah, and the 12 Minor Prophets.
- Music modes:** The discussions in this thesis refer to medieval modes of music, which are not the same as the ancient Greek modes. Another term for the medieval musical modes is the "Ecclesiastical modes", as they were an element of medieval Church music.
- Arvit:** Two terms are used to designate the evening service of Weekday, Sabbath, and Festivals: *Arvit* and *Ma'Ariv*. Both come from the root word for "evening". The term *Arvit* is usually combined with the occasion: *Arvit L'Shabbat*, *Arvit L'Chol*.
- Root/Radical:** Hebrew words are built on a *Shoresh* or "root" that is usually three consonants. Words are formed when vowels and affixes are added to the basic root. The term for these consonants is the word "radicals", as found in Hebrew grammar books.
- Melody:** There are underlying musical modes of chant, the musical motifs that comprise these modes, and metric melodies sung with a rhythmic "beat". "Melody" is used for music with time signatures, measures with bar lines, and a strong rhythm.
- Hindustani:** In the fields of World Music and Indian Music, the term "Hindustani" is used as a valid descriptive word for the Ragas of northern India (versus "Carnatic" for the Ragas of Southern India), even though this term is apparently not used elsewhere.
- Affect:** With the accent of the first syllable, this is a noun referring to the experience of emotion, as opposed to a cognitive experience that is intellectual in nature. Both terms, affective and cognitive, come to the study of liturgy from psychology.
- HaShem Malach** The *Nusach* (Prayer-mode) for the Friday evening *Kabbalat Shabbat* is named after the first two Hebrew words of Psalms 97, 99, and 93. The substitute word "*HaShem*" is used for God's name out of respect for religious concerns of readers.



## 1.2.2 Abbreviations and Typographic conventions

This document has been written with few abbreviations. The most commonly used are these:

B.C.E.	Before Common Era, rather than the religious "B.C." (Before Christ)
C.E.	Common Era, rather than the Latin religious "A.D." ( <i>Anno Domine</i> )
ACC	American Conference of Cantors, Reform professional association
CA	Cantors Assembly, Conservative professional association of Cantors
RA	Rabbinical Assembly, Conservative professional association of Rabbis
HUC	Hebrew Union College - Jewish Institute of Religion (Reform) New York
JTS	Jewish Theological Seminary in New York, and its Cantorial School
YU	Yeshiva University's Cantorial School in New York City (Orthodox)
NFTY	National Federation of Temple Youth, Reform Movement youth group
JSM	<i>Journal of Synagogue Music</i> , published by the Cantors Assembly
MCW	Michigan-Claremont-Westminster computer code for Classical Hebrew

There are some typographic conventions that have been used in this document which may be somewhat different from standard usage. In each case, there are reasons for the usage chosen herein, and these have been discussed with members of the Graduate Advisory Committee.

### 1. Serial or "Oxford" comma:

In a series of items, the pattern will usually be: "X, Y, and Z" for the sake of clarity.

### 2. Comma or period outside of closing quotation mark:

In the direct quotations from books or articles in this paper, the comma or period is inside the ending quotation mark, in accordance with standard usage.

However, there are many places where quotation marks are being used to identify or translate a term, or to highlight a certain concept. In these cases, where there is a comma or a period after such a "highlighting", it is *outside* of the quotation marks. This is to ensure clarity of phrasing, and to facilitate usage of the specialized terms.

### 3. *Italics* versus "quotation marks":

In general, the pattern is to use italics for non-English terms, and to use quotation marks for highlighting terms or concepts and for translating non-English terms.

Underlining is avoided, because it may be tagged as hyperlinks in the electronic version of this thesis. **Bold** font is used for headings and for important phrases.

### 4. Capitalization and U.S. spellings:

Objects, rituals, and concepts that are specific to the field of Jewish religion and Jewish religious music are capitalized. "Jewish Liturgical Chant" is capitalized as is "Biblical Cantillation", because these are specific forms of Jewish sacred music.

The issue of Canadian spellings versus U.S. spellings was discussed with members of the Graduate Advisory Committee. Apparently, at least in the field of religious studies, U.S. spellings have become accepted at some Canadian institutions.

### 1.2.3 Transliteration System used in this M.A. Thesis

Transliteration has a variety of functions, and different types of transliteration are meant for different situations. There are several forms of "scientific transliteration", and their purpose is to enable a reader to reconstruct the spelling of the original language. Other forms of transliteration are meant to be practical, often for the purpose of singing in another language. This thesis does not use the scientific transliteration systems that are found in many scholarly books, articles, and papers. There is no need for the Hebrew spelling to be reconstructed from this transliteration.

Since there is a dearth of Hebrew literacy among many congregants in most denominations, transliteration is essential for them to participate in sections of Jewish Liturgy that are sung by everyone. The issue is simply one of inclusion – without a clear, simple transliteration of texts that are sung as a group, many congregants would not be able to participate in worship services.

The transliteration system that is used in this thesis is based on the principles of clarity and simplicity. The source for this system is the standard style of transliteration found in many new prayerbooks and most settings of Hebrew vocal music, including many from Israel. As can be seen in Appendix B, there is ongoing controversy about the best way to transliterate the letters *Chet* ( ח ) and *Chaf* ( כ ), and for the sake of simplicity they are both "Ch" in this thesis.

Consonants <sup>6</sup> :	<i>Alef</i>	Silent	(slight glottal stop)	א
	<i>Beit</i>	"B"	as in "boy"	ב
	<i>Veit</i>	"V"	as in "very"	ב
	<i>Gimel</i>	"G"	as in "golf"	ג
	<i>Dalet</i>	"D"	as in "dog"	ד
	<i>Hei</i>	"H"	as in "happy"	ה
	<i>Vav</i>	"V"	as in "very"	ו
	<i>Zayin</i>	"Z"	as in "zebra"	ז
	<i>Chet</i>	"Ch"	as in "Bach"	ח
	<i>Tet</i>	"T"	as in "tent"	ט
	<i>Yod</i>	"Y"	as in "yellow"	י
	<i>Kaf</i>	"K"	as in "kitten"	כ
	<i>Chaf</i>	"Ch"	as in "Bach"	כ
	<i>Chaf Sofit</i>	"ch"	(final form)	ך
	<i>Lamed</i>	"L"	as in "lake"	ל
	<i>Mem</i>	"M"	as in "moon"	מ
	<i>Mem Sofit</i>	"m"	(final form)	ם

<sup>6</sup> Please see Appendices B-1 and B-2 for orthography of Hebrew consonants.

	<i>Nun</i>	"N"	as in	"not"	נ
	<i>Nun Sofit</i>	"n"	(final form)		ן
	<i>Samech</i>	"S"	as in	"sun"	ס
	<i>Ayin</i>	Silent	(slight glottal stop)		ע
	<i>Pei</i>	"P"	as in	"puppy"	פ
	<i>Fei</i>	"F"	as in	"fair"	פ
	<i>Fei Sofit</i>	"f"	(final form)		ף
	<i>Tzadi</i>	"Tz"	as in	"cats"	צ
	<i>Tzadi Sofit</i>	"tz"	(final form)		ץ
	<i>Kof</i>	"K"	as in	"kitten"	ק
	<i>Reish</i>	"R"	as in	"road"	ר
	<i>Shin</i>	"Sh"	as in	"shut"	ש
	<i>Sin</i>	"S"	as in	"sun"	ש
	<i>Tav</i>	"T"	as in	"tent"	ת ת
Vowels <sup>7</sup> :	<i>Kamatz Gadol</i>	"a"	as in	"ah"	ֶ
	<i>Patach</i>	"a"	as in	"ah"	ָ
	<i>Chataf Patach</i>	"a"	as in	"ah"	ֶּ
	<i>Patach-Yod</i>	"ai"	as in	"ah-ee"	ֵי
	<i>Segol</i>	"e"	as in	"eh"	ֶ
	<i>Chataf Segol</i>	"e"	as in	"eh"	ֶּ
	<i>Tzeirei Chaser</i>	"ei"	as in	"ey"	ִי
	<i>Tzeirei Malei</i>	"ei"	as in	"ey"	ֵי
	<i>Chirik Chaser</i>	"i"	as in	"ee"	ִ
	<i>Chirik Malei</i>	"i"	as in	"ee"	ֵי
	<i>Cholam Chaser</i>	"o"	as in	"oh"	ֹ
	<i>Cholam Malei</i>	"o"	as in	"oh"	ֵ
	<i>Cholam-Yod</i>	"oi"	as in	"oy"/"oh-ee"	ֵי
	<i>Kamatz Katan</i>	"o"	as in	"oh"	ֶ
	<i>Chataf Kamatz</i>	"o"	as in	"oh"	ֶּ
	<i>Kubutz</i>	"u"	as in	"oo"	ֹ
	<i>Shuruk</i>	"u"	as in	"oo"	ֻ
	<i>Shuruk-Yod</i>	"ui"	as in	"oo-ee"	ֵי
	<i>Sh'va Na</i>	( ' )	as in	"about" ( ə )	ְ
"Consonant-Vowels" <sup>8</sup> :					
	<i>Alef</i>	"a"	<i>initial / medial</i>	"ah"	א
	<i>Hei</i>	"a"	<i>final vowel</i>	"ah"	ה
	<i>Vav</i>	"o" / "u"	as in	"oh" / "oo"	ו
	<i>Yod</i>	"i" / "ei"	as in	"ee" / "ey"	י

<sup>7</sup> Please see Appendix B-4 "Hebrew Vowels".

<sup>8</sup> Discussed in Section 3.3.2 below.

### 1.3 Historical background of Jewish community migrations

The Jewish People have come to be known as the "People of the Book," and many Jewish sacred texts have been developed through the centuries. Whenever Jewish communities have migrated from one home to another during the last two millennia, two sacred books in particular have always accompanied them: the Hebrew Bible, and the Jewish prayerbook. These books are used in public and private Jewish worship, and they are found in synagogues and homes.

How and why are Jewish history and migrations relevant to learning about Jewish sacred chants? The answer is simply that the places Jews have lived, peoples among whom they have lived, and surrounding cultures in which they have lived have affected the character of Jewish chants. Certain aspects of Jewish sacred music have remained constant through the ages, from the Middle Eastern origins to the many places in which Jews lived throughout history. Other aspects of Jewish sacred chants have been affected and modified by the surrounding cultures.

#### 1.3.1 How is the history of Jewish migrations relevant to chant?

Hebrew is an ancient Semitic language used for Jewish sacred texts that are chanted by Jews throughout the world. Similarly, underlying musical modes and modal motifs of Biblical Cantillation and Jewish Liturgical Chant reflect a Middle Eastern style of music that has been modified by the places, peoples, and cultures among whom Jews lived through the centuries.

Western music is based primarily on scales comprised of whole-tones (whole steps) and semi-tones (half-steps) as the intervals between adjacent notes. These notes are arranged within an "octave" of eight tones, and the interval relations within a given octave are usually the same in the octave(s) below and in the octave(s) above<sup>9</sup>.

This is not the case for many of the musical modes that underlie the traditional music found in many other cultures. From North Africa, Egypt, the Balkans, the Levant, Mesopotamia, and Persia, to Central Asia and Northern India, modal music is not based on a series of scales whose intervals repeat in each octave. Rather, musical modes are comprised of modal musical motifs. Intervals in the motifs define the intervals in an entire mode, which is notated as a "modal scale". The "core scale" is simply a convenient way to *compare the intervals* in various musical modes.

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<sup>9</sup> Using the names of notes, an ascending "C Major" scale is presented as "C - D - E - F - G - A - B - C", and the notes of *two* consecutive octaves are presented as "C - D - E - F - G - A - B - C - D - E - F - G - A - B - C". The "C Major" scale is also the medieval "*Ionian Mode*", which can be produced by playing all the white keys from "C" to the next "C" above it on a piano or electronic keyboard, and this repeats in the octaves above and below.

This non-Western phenomenon of "motifs define a mode" rather than "intervals define a scale" can be seen in the modal music of Hindu *Ragas*, Arabic *Maqamat*, and Jewish chant for Biblical Cantillation and *Nusach HaT'fillah* (Musical Prayer-modes). The modal musical motifs chanted for a given text at a given time of day, week, and season have specific intervals between their notes. When these motifs are combined into a particular musical mode, the pattern of those intervals establishes the underlying "scale" of the mode. These intervals can then be presented as ascending and descending scales. Both are needed: the intervals of whole-tones, semi-tones, and "microtones" may be different as the motifs of a musical mode ascend or descend.

Like the motifs and modes of Middle Eastern music, the music of Jewish Liturgical Chant can have different intervals between notes above and below the octave of a core eight-note scale. There are other aspects of Jewish sacred music that are more characteristic of modal Middle Eastern music than scalar Western music. The time of day and week appropriate for chanting a given mode, and the mood inherent in each musical mode, are more characteristic of Middle Eastern music than Western music.

As Jews migrated during the centuries throughout Europe and beyond, the surrounding cultures also brought the influences of Western music into Jewish sacred music. Since the graphic symbols being presented in this thesis are based on the modal musical motifs of sacred chant, it is important to trace these migrations and to see the different cultures with which the Jewish People has interacted, in order to appreciate the musical influences of those cultures.

The Jewish community for which Biblical and liturgical chant is being discussed in this thesis is the Eastern European Ashkenazic tradition as chanted in North America among all religious denominations of Judaism. There are also practitioners of this ubiquitous musical tradition in Europe, Israel, South America and South Africa.

### **1.3.2 Where and among whom have Jewish communities lived?**

The Jewish People moved from being a Middle Eastern culture, to a worldwide culture, and now to both of these in the last century. The *Torah* is written in Biblical Hebrew and the *Siddur* is written in Rabbinic Hebrew, both of which are slightly different from Modern Israeli Hebrew<sup>10</sup>. The fact that Hebrew has few major changes after 2,000 years of Diaspora living is a remarkable aspect of Jewish tradition and continuity.

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<sup>10</sup> Brettler, M. *Biblical Hebrew for Students of Modern Israeli Hebrew*. New Haven: Yale Univ. Press, 2002.

Biblical Cantillation is the oldest form of Jewish music, and some of the musical motifs of liturgical chant or *Nusach HaT'fillah* may be derived from Cantillation motifs. Cantillation and *Nusach HaT'fillah* have both been affected by the music of the surrounding cultures through the ages. However, basic patterns within the motifs of Jewish sacred music are similar across the spectrum of world Jewish communities.

One reason for this is the fact that both Cantillation and *Nusach HaT'fillah* function as a subtle system of *punctuation* and *accentuation* for Biblical and liturgical texts. They both use *modal musical motifs* to reflect the *phrasing* and *meaning* of Jewish sacred texts. As a result of these functions, patterns of chant have similarities among most Jewish communities. The *TaNakh* is the same for all Jews, and until recently, most *Siddurim* were similar in content.

An approach to Jewish history is to study the large currents of activity and conflict among the nations surrounding Israel in ancient days. Similar currents of conflict and cultural contact among the host nations of the Diaspora have affected Jews for the last 2,000 years. There are disagreements among scholars about many suggested dates before the turn of the Common Era, including whether or not the Biblical record reflects actual historical events. There is more consensus among scholars for dates of Jewish historical events during the last two millennia.

The roots of Jewish sacred music developed in the environment of the Middle East. The Land of Israel was a crossroads for ancient trade in all directions: from the Mediterranean Sea and the Red Sea, and by land from Africa, Asia, and Europe<sup>11</sup>. Trade brings cultural influence, including the sharing of musical traditions. During centuries of Jewish life in Israel and Judea, it is logical to guess that there may have been influences on Jewish music from the Egyptians, Babylonians, Persians, Greeks, and traders from Central Asia, India, North Africa, and Europe.

Well before the Roman Diaspora at the turn of the Common Era, Jewish trading posts<sup>12</sup> existed throughout the Mediterranean Basin and around the Black Sea. The Assyrian Empire scattered the inhabitants of the Northern Kingdom in 721 BCE, but the Babylonian Empire kept the Jews together as a community in Exile after the destruction of the Southern Kingdom in 586 B.C.E. Persia allowed a return to the Land of Israel, and the fact that many did not return laid the groundwork for the ensuing 1500 years<sup>13</sup> of a strong Babylonian Diaspora community.

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<sup>11</sup> O'Brien, Patrick, ed. *Oxford Atlas of World History*. London: Oxford University Press, 2007. pp. 52-53

<sup>12</sup> Gilbert, Martin. *Atlas of Jewish History* (3rd Edition). New York: Dorset, 1969 / 1984; pages 16-17.

<sup>13</sup> *ibid.*; page 11

Hellenism had an extensive impact on the Jewish community of Judea after Alexander the Great conquered the Middle East and Western Asia in the 300's B.C.E. New laws that became the *Mishnah* were developed beginning in the Second Commonwealth, during the Hasmonean Kingdom. After the Romans destroyed the Second Temple in 70 C.E., a portable form of the Jewish religion remained, Rabbinic Judaism, which continued to develop in the Diaspora.

It took almost 1,000 years for European Jews to migrate from Italy through France and into Germany. Jews also followed the Arab conquests across North Africa and into Spain with the expansion of Islam during the 700's C.E. In many places where Jews settled, they encountered ancient Jewish trading communities. Everywhere they settled, their religious practices, sacred texts, and Middle Eastern sacred music went with them into these new lands.

The long journey from Italy to France to Germany brought Jews into contact with European music<sup>14</sup>, such as that of German "Minnesingers" and French "Troubadours". This had a large impact on Central European styles of Biblical Cantillation<sup>15</sup>, and on the development of *MiSinai* Melodies<sup>16</sup>. Centuries of relatively stable life in Moslem Spain reinforced the Middle Eastern aspects of Jewish sacred music<sup>17</sup> as it developed in that Arabic environment.

As a result of persecutions during the Crusades and the Black Death, Jews from Western and Central Europe fled to Eastern Europe during the second millenium of the Common Era. On two occasions during the Middle Ages, this migration was at the invitation of Polish kings<sup>18</sup>, who welcomed Jews with experience in commerce, medicine and science. Klezmer music and Ashkenazic liturgical chant both flourished in Poland<sup>19</sup> and in other areas of Eastern Europe.

Through trade contacts and migrations, there may have been Middle Eastern influences at work in the musical culture of Eastern Europe. Patterns of Jewish chant developed in Central Europe were brought into Eastern Europe. Some aspects of Jewish chant changed in this new environment, mainly from modes in a "Major" modality to those in a "Minor" modality. Key elements did not change during the centuries of migrations into Eastern Europe, such as the use of modal musical motifs to indicate the phrasing of Biblical and liturgical Hebrew texts.

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<sup>14</sup> Werner, Eric. *A Voice Still Heard: Sacred Songs ...* University Park, PA: Pennsylvania State Univ. Press, 1976

<sup>15</sup> Avenary, Hanoch. *The Ashkenazi Tradition of Biblical Chant*. Tel Aviv: Tel Aviv University, 1978

<sup>16</sup> Werner, *Voice Still Heard* (1976) *op cit.*, Chapter 3.

<sup>17</sup> Levine, Joseph. *Synagogue Song in America*. Crown Point, IN: White Cliffs Media, 1989; page 82

<sup>18</sup> Casimir the Great (1333-1370) issued Charters of protection

<sup>19</sup> Rogovoy, Seth. *The Essential Klezmer*. Chapel Hill, NC: Algonquin Books / Workman, 2000; pages 23-25.

Jews who were exiled from Spain in 1492 found refuge in the Ottoman Empire, where they were welcomed for their commercial experience<sup>20</sup>. In these lands of the eastern Mediterranean and the Black Sea, *Sefardic* Spanish refugees found *Eidot HaMizrach* Jewish communities<sup>21</sup> that had lived there for many centuries under Arab rule. This led to interactions in the *modal* aspects of Jewish music, as once again the Middle Eastern characteristics of Jewish music flourished in this primarily Muslim environment.

As they entered into the modern period in Europe through social emancipation after the French Revolution, Jews interacted more with their surrounding cultures. Reform Jews in Germany introduced organs and choirs to some large synagogues. German Jewish immigrants brought these to North America in the 1840's as they established the Reform Movement. At the turn of the 20th century, two million Eastern European immigrants brought a more traditional form of Judaism to North America, which became the Orthodox and Conservative Movements.

These migrations caused an increase in the influence of Western music upon Jewish sacred music. This affected liturgical chant more than Biblical chant, and after World War II, new Cantorial Schools provided continuity. Some details of these developments are explored in Chapter 2, in the context of the question "Who wants to learn chanting of Jewish worship?"

### **1.3.3 When were the Hebrew Bible and Jewish Liturgy organized?**

Parallel timelines<sup>22</sup> can indicate some background information on Jewish sacred texts, their authors, and their times of origin. The context of Jewish migrations and the surrounding nations discussed above will put the *Torah* and the *Siddur* into their historical contexts. Details of the development of both sacred texts will be found in Chapters 3 and 4 below. This introductory presentation is for the purpose of identifying the general historical context as background for those later detailed discussions<sup>23</sup>.

The *Sof'rim* (Scribes) were active in Judea during the Hellenistic Period, and early *Midrash*<sup>24</sup> commentaries were being developed there by the turn of the Common Era. New laws expanding upon the *Torah* were developed by the *Tannaim*<sup>25</sup>, and many of these laws were compiled by the

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<sup>20</sup> This experience of Sefardic Jews parallels the experiences of Ashkenazic Jews in Poland.

<sup>21</sup> Morocco, Tunisia, Egypt, Yemen, Syria, Turkey, Iraq, Iran, Caucasus Mts., Afghanistan, and Central Asia

<sup>22</sup> Gribetz, Judah. *Timetables of Jewish History*. New York: Touchstone / Simon & Schuster, 1993.

<sup>23</sup> See development of the Hebrew Bible in Section 3.2, and of Jewish liturgy and the *Siddur* in Section 4.2 below.

<sup>24</sup> Exegetical stories and commentaries on the *Torah* and other Biblical books.

<sup>25</sup> Rabbis of the Mishnaic Period (200 B.C.E. - 200 C.E.)



*Amoraim*<sup>26</sup> during the next few centuries, as the Babylonian and Palestinian *Talmud*. Memories of ancient Temple sacrifices were kept alive in the *Talmud*, and in Jewish liturgy as it developed.

The rest of the Hebrew Bible (Prophets and Writings) was stabilized or canonized near the turn of the Common Era. The major outlines of Jewish liturgy were codified in Israel during the first and second centuries C.E., and this process continued in Babylonian Talmudic academies<sup>27</sup>. Like the *Torah* and the Oral Law, there were many centuries of *oral transmission* before Jewish liturgy was finally written down. Rav Amram Gaon<sup>28</sup> in Babylonia compiled the first *Siddur* in the late 800's, in the form of a *Responsa* to questions from a Spanish Jewish community, and Rav Saadia Gaon wrote another *Siddur* a few decades later in a similar manner.

During the 800's, vowels and punctuation symbols were added to the consonantal Hebrew Bible text by the Masoretes in Tiberias. The first fully pointed Hebrew Bible is dated about 930 C.E. (Aleppo Codex), and the earliest remaining complete Hebrew Bible is the Leningrad Codex of 1009<sup>29</sup>. Development of Jewish law did not stop with the Babylonian *Talmud*. The *Rishonim* and *Achronim*<sup>30</sup> continued to develop new law codes, of which the *Shulchan Aruch*<sup>31</sup> is the best known. These law codes have additional details of how to conduct Jewish worship. A more recent law code, the *Mishnah Berurah*<sup>32</sup>, presents useful details for Jewish liturgy.

As the Reform and Conservative movements grew in North America, new developments entered the contents of liturgy. The Triennial Cycle of *Torah* chanting<sup>33</sup> was codified by the Rabbinical Assembly in the 1980's, and many new *Siddur* text translations<sup>34</sup> are gender-sensitive. New *Tikkunim*<sup>35</sup> and *Siddurim*<sup>36</sup> mark fine points of Classical Hebrew grammar, such as *Kamatz Katan* and *Sh'va Na* (Sounded *Sh'va*). Chapter 2 presents details about Cantorial Schools, and the shift from mostly professional-led worship to increasing lay leadership. This change helped motivate the development of the graphic symbols *Simanei Nusach* presented in Chapter 5.

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<sup>26</sup> Rabbis of the Talmudic Period (200 C.E. - 500 C.E.)

<sup>27</sup> The main Babylonian academies were at Sura and Pumbeditha

<sup>28</sup> Discussed in Section 4.2.2 as a "*Responsum*" to the community of Barcelona.

<sup>29</sup> Freedman, David, Ed. *The Leningrad Codex: A Facsimile Edition*. Grand Rapids: Eerdmans Publishing, 1998

<sup>30</sup> Rabbis of the Middle Ages who produced works updating religious laws over several centuries

<sup>31</sup> Written by Joseph Caro in the 1500's, with a gloss by Moshe Isserles for the *Ashkenazic* community.

<sup>32</sup> Written in the late 1800's by Israel Meir HaKohen, also known as the *Chafetz Chayyim*.

<sup>33</sup> The 1st third of each portion is in Year 1, 2nd third in Year 2, and 3rd third in Year 3 of this Triennial Cycle.

<sup>34</sup> Such as the 1998 edition of the Conservative *Siddur Sim Shalom*, and the 2007 Reform *Siddur Mishkan Tefilah*.

<sup>35</sup> Riachi, Shmuel Meir, ed. *Tikkun Simanim (Simanim Edition)*. Jerusalem: Machon HaTorani, 1996.

<sup>36</sup> Sacks, Jonathan, ed. *The Koren Siddur*. Jerusalem: Koren Publishers / Orthodox Union, 2009

## Conclusion to Chapter 1

Chapter 1 has set three types of context for the analysis of *Simanei Nusach*, Symbols of Prayer-chant. The first context is a brief description of why there was a need to create these graphic symbols for Jewish Liturgical Chant. They were a response to this author's realization during a series of intense "sacred music learning retreats" that many adult lay religious leaders do not read notated music.

The second context is the specialized terminology, abbreviations, typographic conventions, and the transliteration system that are used in this thesis. The use of modern "prayerbook style" transliteration rather than "scientific style" reflects the fact that there is no intention in this thesis to "reconstruct" the spelling of the Hebrew words, and the additional reality that many Hebrew terms used have acquired "standard" transliterations in much of the literature.

The third context is an explanation of why the history of Jewish migrations is relevant to a study of Jewish chant motifs, a brief presentation of Jewish migrations throughout history, and a brief introduction to the organization of the Hebrew Bible and Jewish liturgy in the context of those migrations. The most important aspect of this historical context is the concept that the sacred music of Judaism is a Middle Eastern style of music that has been influenced by music of the cultures among which the Jewish People have lived worldwide through the centuries.

## Chapter 2 – Education Trends for Cantillation and Liturgy

### 2.1 New demographics affecting education since the 1970's

Standard questions during analysis of a subject are, “Who?”, “What?”, “When?”, “Where?”, “Why?”, and “How?”. Three questions are addressed to give background material and context for these graphic symbols. “What?”, “When?”, and “Why?” are discussed for Hebrew grammar and Bible Cantillation in Chapter 3, and for liturgy structure and *Nusach HaT’fillah* (Musical Prayer-modes) in Chapter 4. “How?” these graphic symbols function is addressed in Chapter 5 for the ways they show sacred times, liturgy structure, text phrasing, mood, and text meaning.

That leaves the questions “Who?” and “Where?” for Chapter 2. One can ask, “Who leads Jewish Liturgical Chants?” “Who teaches others to lead these chants?” “Where are these sacred chants taught and learned?” “Where are they chanted in Jewish worship services?” One answer may seem obvious – worship is usually experienced in a synagogue. However, there are other settings where Jewish worship is experienced<sup>37</sup>, and it is often led by lay leaders in those places.

#### 2.1.1 Prior to 1970's many JTS students had *Yeshiva* backgrounds

The Cantorial School of Jewish Theological Seminary in New York City is the *alma mater* of this author. Several leaders of the established German-American Jewish community helped fund and organize the Jewish Theological Seminary (JTS) at the turn of the 20th century to train new Rabbis for the Eastern European immigrants. As early generations of Rabbinical School graduates spread through North America, they established the "balance between tradition and modernity" that remains a hallmark of Conservative Judaism in the 21st century.

After World War II, in light of the destruction of the European Jewish community and the murder of most European Cantors during the Holocaust, the Cantors Institute was established at JTS<sup>38</sup>. Its early generations of students often had *Yeshiva* educational backgrounds, and many of them came to JTS with prior Judaic knowledge and often with many liturgical skills. By the late 1970's, it was more common for students to arrive with an undergraduate college education.

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<sup>37</sup> *Chavurot*, Independent *Minyanim*, summer camps, youth groups, etc., discussed in Section 2.1.3 below.

<sup>38</sup> The JTS Cantorial School curriculum in the 1970's consisted of three main subjects: Judaic study (especially Hebrew and Liturgy), general music study (including theory and sight-singing), and Jewish music study. This included sacred music, Jewish secular music, choral conducting, music programming, and music education. In recent years there are courses in Jewish education, and Chaplaincy training is arranged with other institutions.

### **2.1.2 There were three Cantorial Schools, and now there are more**

Forty years ago there were three main choices for "cantorial school education" to become a professional cantor. Reform is Hebrew Union College - Jewish Institute of Religion (HUC-JIR), Orthodox is Yeshiva University (YU), and Conservative is the Jewish Theological Seminary (JTS). All three are located at the New York City (Manhattan) campus of each institution<sup>39</sup>.

There are now Cantorial Training programs at the Academy for Jewish Religion (AJR) in New York, and Hebrew College in Boston (non-denominational). These programs stress the academic cooperation of Rabbinical and Cantorial students, hoping to facilitate professional relationships among clergy in synagogues. There are also several Cantorial training programs in other educational settings, offering opportunities that are unique to their smaller programs.

These professional training programs share certain key elements. Except for HUC, YU, and JTS, all say they are "non-denominational" or "post-denominational" or "trans-denominational". All of these training programs now offer (to some extent) training for the dual role of "Cantor-Principal" to prepare their students for a tighter job market that demands multiple skills. All of these programs urge their students to take at least one unit of Clinical Pastoral Education (CPE).

The time-honored practice of becoming a Cantor through apprenticeship to an experienced Cantor is still being practiced. Members of both the Cantors Assembly (CA, Conservative) and the American Conference of Cantors (ACC, Reform) who were trained this way have become respected leaders in the North American Cantorate.

There are two newer avenues towards cantorial training that are not offered by all of these programs. Both the CA and the ACC of now offer "Cantorial Certification" as a new option for membership, in the context of pulpit experience for several years. The "Certification" process involves intense training with a mentor or through an accepted alternate program, such as the Online Program of Hebrew College (in Boston) of which this author is a Faculty member.

When a person who has undertaken all of the required study for Certification feels that he or she is ready to be tested, there is an examination involving "book learning" and professional skills. Those who pass this examination are then welcomed into the CA or the ACC with the same status as any graduate of a formal Cantorial School.

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<sup>39</sup> For several years, the Reconstructionist Rabbinical College and Gratz College (both in Philadelphia) shared a Cantorial training program. This program is no longer in operation.

Another avenue towards "para-professional" lay religious leadership is offered by some of the denomination-based schools and "trans-denominational" schools. Students who prefer this approach make up much of the "student body" for the Hebrew College Online courses taught by this author. These lay leaders may not plan to become Cantors, but they have responsibilities in their synagogues, and they choose to improve their chanting skills through online education.

### **2.1.3 Shift in worship leadership from clergy to laity in many settings**

During the 1970's, a shift began from "clergy-led" worship services to "lay-led" worship in several types of settings. Initially this was a phenomenon of the "*Chavurah*" Movement, which was groups of families who gathered to share holiday and life-cycle celebrations, and who often shared regular *Shabbat* worship. Many if not most of these groups were lay-led, and they often met in homes rather than in a synagogue building.

*Chavurot* have changed somewhat during the last 40 years, and there are some synagogues in the religiously liberal movements that have invited a *Chavurah* to meet in one section of the building, often conducting their own lay-led service while the clergy is conducting the "main service" in the Sanctuary. At the turn of the 21st century, perhaps the "Independent Minyan" Movement is the modern-day version of the original *Chavurot*, complete with sharing meals, holiday celebrations, life-cycle events, and lay-led services.

The turmoil of the late 1960's and early 1970's, as the Viet Nam War concluded, had as a spin-off the concept of "do-it-yourself" in many aspects of life, as seen in *The Whole Earth Catalog* of that era. In this spirit, three volumes of the *Jewish Catalog* were published by the Jewish Publication Society, beginning in 1973<sup>40</sup>. These provided resources for a new generation of activist Jews to observe many traditional rituals with new spiritual approaches.

In addition, after Israel won the *Six Day War* in June of 1967, in the context of the "Black Power" movement associated with battles for Civil Rights, many people who might have been private about their Jewish identity began to affirm that identity. The concept of a *Ba'al T'shuvah* (Master of the Return, fem. *Ba'alat T'shuvah*) was one way that the Jewish community could understand the phenomenon of seeing significant numbers of younger Jews becoming more observant of Jewish laws and rituals than their parents' generation had been.

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<sup>40</sup> Siegel, R., Strassfeld, M. & S., eds. *The Jewish Catalog: A Do-It-Yourself Kit*. Philadelphia: Jewish Publication Society, Vol. 1, 1973 / Vol. 2, 1976 / Vol. 3, 1980.

These college-age students and "young married" couples looked for ways to bring the new spirit of the "liberated 1970's" into their Jewish lives, and some of them found that by becoming Orthodox or Chassidic. However, most young folks were not willing to change their lives quite this much, and they found connections to their Jewish identities through the new Jewish music that was becoming popular during the 1960's and 1970's. This was "folk-rock" music for which the texts were verses from the Hebrew Bible and from the traditional Jewish liturgy<sup>41</sup>.

One pioneer of singing sacred texts to guitar music was Shlomo Carlebach<sup>42</sup>, and another was Debbie Friedman<sup>43</sup>. A significant boost to this phenomenon was provided by Israel in the form of the *Hassidic Song Festivals* that served as a forum for creating this new type of Jewish music. One rule was that the Hebrew text had to come from the Hebrew Bible or prayerbook, and from 1969 until the mid-1980's these competitive festivals generated dozens of folk-rock melodies that are still sung in the synagogues of most denominations<sup>44</sup>.

#### **2.1.4 Effects of Jewish summer camps and youth groups on lay leaders**

Initially, the two main loci of musical creativity were the Reform (through NFTY, its youth group) and Orthodox communities. The transformation of the Conservative Movement liturgy by this music took place via Jewish summer camps, especially Camp Ramah, the "official camp" of Conservative Judaism<sup>45</sup>. Songs that were composed, recorded, and taught by young Reform musicians were immediately popular at the Camps Ramah. From there they were brought back at each summer's end to the mainstream Conservative synagogues. The fact that these melodies are "upbeat" made them popular with many congregants, and this still happens today.

This transfer of new songs to "home synagogues" occurs because at many Jewish summer camps, the campers and their college-age Staff share worship services each *Shabbat*. The same mechanism works for another vehicle that spreads contemporary music rapidly – Jewish Youth groups. At Youth conventions in all Jewish denominations, new melodies are included in the worship services, and young leaders participating in these services take these melodies back to their home synagogues. There continues to be "cross-over" among the denominations, where melodies originally created for Orthodox or Reform are now sung in most synagogues.

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<sup>41</sup> Unfortunately these "free-standing" short melodies do not always fit well into the surrounding prayer-modes.

<sup>42</sup> Active from the 1950's until his death in 1994.

<sup>43</sup> Active from the 1970's until her death in 2011.

<sup>44</sup> Nurit Hirsh won First Place in the *First Hassidic Song Festival* with an *Oseh Shalom* that is still very popular.

<sup>45</sup> About a dozen sites in the U.S., Canada, and Israel, and administered under the educational auspices of JTS.

Through the 1970's and the 1980's there was some resistance on the part of some Cantors<sup>46</sup> to these musical innovations. However, it became clear that this contemporary style of music was appealing to the "demographic" that is sought by every synagogue - young families. One question facing clergy is how to find a balance between the preference for participatory, modern melodies, and the centuries-old traditional musical structure of *Nusach HaT'fillah*.

### **2.1.5 Response of Movements and Cantorial Schools to new interest**

One result arose from this combination of the new "do-it-yourself" Judaism among younger folks (part of the 1970's liberation and egalitarianism), and popular participatory music coming into the traditional liturgy from many new sources in Israel and North America. As young folks experienced the summer camps, youth groups, and early *Chavurot* where they participated in the leadership of Jewish worship using these new melodies, they began to seek opportunities to also participate in the leadership of worship services in their home synagogues.

Since the 1990's, United Synagogue of Conservative Judaism offered the *IMUN Program*<sup>47</sup>, which was held each summer at a Camp Ramah. This was intense teaching of synagogue skills (Biblical Cantillation and Jewish Liturgical Chant) in a week-long "boot-camp" retreat setting. During *Shabbat* at the end of the week's study, participants shared their new skills together.

The Reform Movement offers two programs, aimed at different groups of lay leaders. For those who read notated music, there is *Mifgash Musicale*, and for those who do not read music, there is the *Hadracha* Program. These are both more extended than the *IMUN* model. They are intense, but not with the "boot-camp" type of pressure that resulted from learning so much new material in so few days. Similar teaching programs are offered by other Jewish organizations, and workshops are taught annually at conferences of Jewish educators and song-leaders<sup>48</sup>.

## **2.2 Standards for complex materials with lay religious leaders**

It is logical to appreciate the desire for participation in worship on the part of congregations, and to support the desire for leadership of Jewish worship by increasing numbers of interested lay religious leaders. On the other hand, there are some considerations and consequences that bear exploring. There is a large body of knowledge that is necessary to learn in order to lead

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<sup>46</sup> This can be seen in many articles by Conservative Cantors in the *Journal of Synagogue Music*.

<sup>47</sup> Originally named "*IMUN LeImmunim*", and extant from 1991 until 2009.

<sup>48</sup> Such as at CAJE (Coalition for the Advancement of Jewish Education) and now at NewCAJE for Jewish educators, and at the "*Hava NaShir*" (literally "Come Let Us Sing") retreat for Jewish song-leaders.

Jewish worship: Hebrew grammar, liturgical structure, musical modes and motifs of *Nusach HaT'fillah*, and more. Logical questions are: "How much can and should a lay leader learn?" and "Does it matter if lay leaders chant worship services without knowing grammar and music?"

This is background for the *Simanei Nusach* symbols discussed in Chapter 5. The reason for developing these graphical symbols was to give visual indications of modal musical motifs for those who do not read notated music. These symbols also delineate phrasing in liturgical texts, and this function has been expanded. There remains the question, "Will these graphic symbols help lay leaders learn Jewish Liturgical Chant in an accurate, traditional manner?"

### **2.2.1 Details of Hebrew grammar, Cantillation and Liturgy are extensive**

The term "Classical Hebrew" can refer to both "Biblical Hebrew" as found in the Hebrew Bible (*TaNaKh*) and Mishnaic / Rabbinic Hebrew as found in early Jewish liturgy. Both types of "Classical Hebrew" changed and developed over time<sup>49</sup>, with subtle changes in the phonology and pronunciation, and other changes in the grammar and syntax. There are many similarities in grammar between Modern Israeli Hebrew and Classical Hebrew, and there are also grammar issues that are specific to the Hebrew of the *TaNaKh* (Hebrew Bible), *Siddur* and *Machzor*<sup>50</sup>.

Chapter 3 presents Biblical Cantillation as a system of punctuation and accentuation, and chanting the Trope symbols is an expression of those functions. It is less known that the musical motifs within *Nusach HaT'fillah* (Musical Prayer-modes) also function to *delineate phrases* in Hebrew liturgical texts, as will be discussed in Chapter 4. Lay religious leaders may understand that *Nusach* musical motifs indicate the "liturgical occasion", the "section of a service", and the "mood" of a text, but the concept of "*Nusach* motifs as phrase markers" may be less familiar.

Most congregations have standards for the level of accuracy expected from those who chant from the *Torah* scroll or the *Haftarah* Prophetic reading. These may include accurate consonants and vowels, proper phrasing, fluency, and approximation of the Trope motifs. The congregation has the *Torah* text in "book form" with vowels and Trope, so congregants can follow along to see if the Biblical text is being chanted accurately. Standards for prayer-chant may be lower than those of Biblical chant, because fewer congregants know those musical oral traditions.

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<sup>49</sup> Hoffman, Joel. *In the Beginning: Short History ... Hebrew Language*. New York: NYU Press, 2004; Chap. 6

<sup>50</sup> Brettler, *Biblical Hebrew* (2002), *op cit.*,



## 2.2.2 With fewer professional *Hazzanim*, musical traditions are being lost

Ideally there is a partnership between a Rabbi and a *Hazzan* for planning and conducting all worship services. Each has specialized training – Jewish Law and homiletics for a Rabbi, and sacred and secular Jewish music for a *Hazzan*. No public document addresses the reality that in some synagogues the Rabbi plans the contents of worship services, and the *Hazzan* plans music for those contents. In other synagogues *both* the Rabbi and *Hazzan* plan all the contents of the liturgy, and they discuss how the texts are presented (chant, melody, choral, or English reading).

When a lay person leads worship, the term for that role is *Shali-ach Tzibbur* (literally the "sender" of prayer for the congregation). Technically when a professional *Hazzan* is leading prayers, he or she is fulfilling the role of *Shali-ach Tzibbur*, but practically this term is reserved for a person who is not a professional Cantor. One responsibility of a *Hazzan* on the staff of a synagogue is to train interested lay leaders<sup>51</sup> how to chant the modes and motifs of liturgy.

One reality of congregational life in ritual areas, especially for the melodies of worship, is the concept *Minhag HaMakom* (the custom of this place). This powerful force might dictate the chanting of specific musical motifs and congregational melodies that may not be the generally accepted musical tradition for those texts. Local *traditions* (with a "small t") often supersede general *Traditions* (with a "capital T") for liturgical chant. A constant challenge for prayer-leaders is to balance local musical traditions against the introduction of newer melodies.

Similar issues affect choices of sacred music in some churches, as hymnals are revised with modern language, new music, and the music of many cultures. There are aspects of worship for which there may be similar *Minhag HaMakom* controversies<sup>52</sup> in churches and in synagogues: singing a choral setting versus a congregational melody or a Hymn, a traditional melody versus a contemporary version, and the ambience of an "upbeat" mood versus a "solemn" mood.

Others aspects of worship are more germane to synagogues than to churches, such as the balance between Hebrew and English. These also include the balance between liturgical texts chanted by the prayer-leader versus metric melodies sung by the congregation, the use of *Nusach HaT'fillah* for specific liturgical texts, and whether some prayer-texts are said silently by the congregation or presented in another manner (such as responsive English reading).

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<sup>51</sup> When a lay religious leader serves as *Shali-ach Tzibbur*, it is hoped that this person pronounces Hebrew fluently and accurately, and that the given set of prayers will be chanted within the traditional musical modes and motifs.

<sup>52</sup> Hoffman & Walton, eds. *Sacred Sound and Social Change*. Notre Dam, IN: Univ. of Notre Dame Press, 1992.

### 2.2.3 Tension in synagogues between innovation and traditional chanting

Among the unique challenges of sacred music in some synagogues, there are some factors present that are specific to Jewish life in North America since World War II. Congregants often prefer congregational melodies versus the chanting of prayers by the *Hazzan*. Many factors led to a lesser value being placed on "the traditional chant for a particular prayer at a given time" as specified by modal musical motifs of *Nusach HaT'fillah*. These include fewer people who carry the "tonal memories" of previous generations, little transmission of those "tonal memories" to younger Jews, and less value on the concept of "sacred time" in the lives of many modern Jews.

Beyond the issue of "chanting *Shabbat Nusach* and melodies during Tuesday morning and evening services" are some specific issues with congregational melodies. A traditionally-trained *Hazzan* may experience challenges from congregants wanting bouncy metric melodies whenever possible. If the music of a melody does not match the accents, phrasing, *Nusach* mode, "mood" and meaning of a liturgical text, some Cantors try to dissuade congregants from such melodies.

This phenomenon is not restricted to any denomination – *Hazzanim* in all denominations share the frustration<sup>53</sup> of balancing the traditional *Nusach HaT'fillah* modes and musical motifs with the constant requests for congregational melodies. One prayer-text may appear in several places through the liturgy, and it traditionally may be *chanted in a different manner in each place*, or there may be various metric melodies that are appropriate in each place. There is a tendency for congregants in synagogues of all denominations to prefer one favorite melody for a given text, and to urge the singing of that one melody wherever this text appears in the liturgy.

### 2.3 Printed, recorded, software and Internet resources for Chant

In small synagogues, there may not be a Cantor, or a Rabbi in very small synagogues. On the other hand, in large synagogues, even a large professional staff cannot be present for every Weekday service and every home-based Memorial Service when there is a death. Therefore, whether one is discussing small synagogues or large ones, increasing interest on the part of lay religious leaders to lead some worship services helps meet the religious needs of the synagogue and the professional responsibilities of its clergy.

The liturgical complexity of Jewish worship and this increased lay interest caused a need for new educational materials to train non-professional lay prayer-leaders. Originally these

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<sup>53</sup> Reflected in many articles in the *Journal of Synagogue Music* and conversations at professional conventions.

materials consisted of printed books, vinyl records, and cassette recordings. Toward the end of the 20th century there were sets of teaching CDs and the early Internet websites. Now in the early 21st century it is possible to obtain mp3 audio files<sup>54</sup> and educational computer software<sup>55</sup> for Biblical Cantillation and Jewish Liturgical Chant training.

### 2.3.1 A few books on Cantillation, and even fewer on chanting *Nusach*

This presentation of available resources is not a Literature Review, but rather it is integral to the development of the *Simanei Nusach* graphic symbols. One reason that they were developed is the fact that there are relatively few resources available for teaching Jewish Liturgical Chant to lay leaders. The bibliography for this paper has many entries that might seem useful, but the majority of them are scholarly, meant only for professionals, or entirely out of print.

Of the books on Biblical Cantillation listed in the bibliography, only a few<sup>56</sup> are easily available. There are other books still in print that are harder to find<sup>57</sup>, and others that are scholarly works or completely out of print. Compared to these few books about Cantillation, there is a paucity of books about *Nusach HaT'fillah*. The only books meant for a *lay audience* are the volumes of Pinchas Spiro (and their CDs)<sup>58</sup>, published by the Cantors Assembly.

Andrew Bernard wrote a book on *Nusach* for the HUC-JIR Cantorial School<sup>59</sup>, and Charles Davidson wrote a series of books for the JTS Cantorial School<sup>60</sup>. These books are challenging for the average lay person, and reading notated music is essential. Books of notated liturgical music by other Cantorial School faculty include A. Katchko<sup>61</sup> and I. Alter<sup>62</sup> of Hebrew Union College (Reform), N. Schall<sup>63</sup> of Yeshiva University (Orthodox), and Y.L. Ne'eman<sup>64</sup> (in Israel).

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<sup>54</sup> Goffin, Sherwood. *Be a Ba'al Tefillah*. www.Davka.com

<sup>55</sup> Buchler, *Tefillah Trainer*™, Kinnor, *op cit*.

<sup>56</sup> Jacobson, *Chanting the Hebrew Bible* (2002) and its Student Edition (2005), JPS; Portnoy and Wolff, *The Art of Cantillation* Vol. 1 & 2 (2000 & 2001) UAHC (URJ Press); Spiro, *Haftarah Chanting* (1994/2003) and its *Teacher's Guide* (1995) Cantors Assembly; and Binder, *Biblical Chant* (1959), Philosophical Library.

<sup>57</sup> Tunkel, *Music of the Hebrew Bible* (2006), Tysnder; Simon, *Complete Torah Reading Handbook* (1996), Judaica Press; Rosenberg, *T'aamim Lakorim* (1980), Chadish Press; and Kohn, *Learn to Lein* (2006), Feldheim.

<sup>58</sup> Spiro, Pinchas. *Musical Siddur* series. These will be discussed in Section 5.\_\_\_\_ at the end of Section 5.2 below.

<sup>59</sup> Bernard, Andrew. *The Sound of Sacred Time*. Charlotte, NC: self-published, 2005.

<sup>60</sup> Davidson, Charles. *Immunim Be-Nusah Ha-Tefillah*. Elkins Park, PA: Ashbourne Music; Vol. 1, 1996; Vol. 2 (Hallel), 2004; Vol. 3, *Sefer Hadrakhah*, 2010; also *Madrich le-Nusach ha-Tefillah*. New York: JTS, 2003.

<sup>61</sup> Katchko, Adolph. *Thesaurus of Cantorial Liturgy*, Part One. New York: Hebrew Union College, 1952.

<sup>62</sup> Alter, Israel. *The Sabbath Service*. New York: Cantors Assembly, 1968.

<sup>63</sup> Schall, Noah, *Hazzanic Thesaurus: Sabbath*. New York: Yeshiva University, 1969 / (2nd Edition) Tara, 1990.

<sup>64</sup> Ne'eman, Yehoshua. *Nusah LaHazan: the Traditional Chant of the Synagogue*. Jerusalem: Israel Institute for Sacred Music; Vol. 1 – High Holidays, 1963 / 1972 ; Vol. 2 – Sabbath, 1968

### 2.3.2 Recorded materials and teaching software increasingly available

Before Cantorial Schools, there were three main ways for an average person to learn how to chant Jewish liturgy: listening to 78 rpm and 33 rpm recordings of pre-WW II "star Cantors", attending worship and concerts in which these *Hazzanim* sang, and apprenticeship with a Cantor who was willing to be a mentor. Among early teaching records were those of Avraham Davis, and Saul Wachs recorded a large set of teaching cassette tapes for United Synagogue<sup>65</sup> in 1982. Chadish Media also produced teaching cassettes in the 1980's, and CDs were recorded for all of the Pinchas Spiro Musical *Siddurim* and *Machzorim* published by the Cantors Assembly<sup>66</sup>.

The American Conference of Cantors completed a project to record every *Torah* reading throughout the year onto CDs, but there has been no project for liturgical chant from the Reform Movement as of December 2012. The main purveyors of Jewish educational software (Davka and T.E.S.) both offer CDs and mp3 disks of Biblical and liturgical chant, and sets of teaching CDs are available from Israel for the liturgies of the entire yearly religious cycle<sup>67</sup>.

There is a built-in problem with many of these recorded materials. For many CDs and mp3 recordings of traditional liturgical chant, there is one male voice, and it is usually recorded using an *Ashkenazic* pronunciation. This reflects the reality that a large portion of the market for such products is Orthodox and Chassidic, whereas the more religiously liberal synagogues usually chant the Hebrew liturgical texts in a *Sefardic* pronunciation. There are some recorded materials now being produced to meet these needs, but even the newer audio materials are usually in one voice and one speed – it is a limitation of that technology.

### 2.3.3 Software and Internet resources vary in sophistication and usability

This same issue of one voice chanting in one speed and in *Ashkenazic* pronunciation also affects some of the teaching software available from T.E.S. and Davka. Most available software is simply a set of mp3-based recordings packaged in a software format. There are specific mp3 products for *Bar/Bat Mitzvah* teaching, and other such products that seem more useful for adult students interested in learning how to participate in worship and to lead portions of the services. There are also several developers working on "apps" for iPads, iPods, and iPhones (and other mobile devices), but most of these are still being refined.

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<sup>65</sup> Wachs, Saul. *Shim'u v'Ran'nu! Tape for Teaching Nusah HaTefillah*. New York: United Synagogue, 1982

<sup>66</sup> These books (and their CDs) are listed separately in the Bibliography of this thesis.

<sup>67</sup> Yafee, Eli. *Chanting of Prayers for the Entire year*. Tel Aviv: Noam Productions, 1998; 15 teaching CDs.

There are three software companies producing teaching products that compete with each other. Kinnor<sup>68</sup> produces *Trope Trainer*<sup>TM</sup> for Biblical Cantillation, and *Tefillah Trainer*<sup>TM</sup> for Jewish Liturgical Chant. Kol Korei and Koltor offer software products for teaching Biblical Cantillation. The products of each company have their strengths, and "price points" vary among their various software packages. It is the opinion of this author that the products of Kinnor Software are most extensive and flexible. The use of the *Simanei Nusach* symbols in *Tefillah Trainer*<sup>TM</sup> teaching software will be discussed in Chapter 5.

Among the Internet-based resources, not all the audio material presented in all the websites is clear, or even in keeping with the traditions of *Nusach HaT'fillah*. Some websites use *Nusach* motifs that are not in keeping with *Ashkenazic* tradition for a given text<sup>69</sup>, while other sites offer melodies that may not be the best choice<sup>70</sup> for a given type of worship service. A problem for all printed, recorded, software and Internet resources is having the flexibility to meet the varying needs of *Minhag HaMakom* in each synagogue.

## 2.4 Semiotics and Musical Semantics are new research areas

This thesis is a presentation and analysis of new graphic symbols for liturgical chant. With one exception<sup>71</sup> (which was not widely accepted by Cantors), there have been no such symbols in the entire 2,000 years that Jewish liturgy has been chanted worldwide. How does one begin to understand and evaluate this new system of graphic symbols that represent an oral tradition? How are these symbols related to the symbolic language of music, and to the use of symbols in general, to indicate meaning for an auditory religious phenomenon?

Ecclesiastes 1:9b claims "There is nothing new under the sun!" With all due respect to the author of *Kohelet*, these symbols **are** something new – this system of graphic symbols did not exist before 2005. This thesis is an attempt to answer questions such as "What do they mean?" "Why were they invented?" "How do they function?" "Who uses them?" "Where can they be seen in use?" "When are they used?" "How do they contribute to dissemination of knowledge?" "Can graphic symbols adequately indicate modal musical motifs for lay prayer-leaders?"

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<sup>68</sup> Kinnor Software is available at "www.Kinnor.com"

<sup>69</sup> *SiddurAudio* presents the *Hatzi Kaddish* prayer for *Shabbat Shacharit* with the *Nusach* for Friday evening, as is commonly found in synagogues. However, the *Hatzi Kaddish* before *Musaf* is chanted in the traditional manner.

<sup>70</sup> *VirtualCantor* presents two versions of the *Hatzi Kaddish* before *Shabbat Musaf*. One is chanted in traditional *Nusach* (*HaShem Malach* mode), and the other is chanted with the *Nusach* of Friday evening, as is common.

<sup>71</sup> Discussed in some detail in Section 5.2.3 below.

### 2.4.1 Theoretical Framework for analysis of new graphic symbols

There is a theoretical framework for the analysis of the *Simanei Nusach* graphic symbols, and it is present throughout this thesis. Jewish sacred chant has been an expression of Jewish religion for over two millennia, and it is only since the early 20th century that scholars have produced books and articles which meet the criteria of modern academia. There is a small but growing set of scholarly books and articles that are best categorized as Jewish ethnomusicology.

Dr. Johanna Spector taught ethnomusicology in the Cantorial School of JTS for over thirty years. She taught this author that Arabic *Maqamat* are related to Jewish sacred music, both Biblical Cantillation and Jewish Liturgical Chant. Jewish ethnomusicology is an academic endeavor that provides one theoretical framework for the analysis of the *Simanei Nusach*.

Within the field of Jewish ethnomusicology, the specific approach of this author has been the **study of Trope and Nusach motifs** as a **basis for understanding Jewish sacred music**. This was not emphasized in the late 1970's at the JTS Cantorial School, and it is not a major aspect of scholarly writing in this field. There are just enough academic books and articles on this subject to provide a theoretical framework for the work in this thesis. There is a need for more research on the subject using this new approach, and this thesis will contribute to that.

These graphic symbols are a useful teaching tool, but they are also much more than that. While assigning them to notated chants in teaching software, this author has grappled with the larger issues of **how modal musical motifs function** in Jewish Liturgical Chant. Connections with Biblical Cantillation motifs were expected, and also with the musical modes of *Maqamat*. Connections with **other characteristics** such as delineation of time and mood in *Maqamat* and Hindustani *Ragas* were not expected. This may be a new area of study for ethnomusicology.

To provide a larger point of view that is more familiar to the academic world, the fields of semiotics and musical semantics are also providing a theoretical framework for the analysis for the new graphic symbols that were developed by this author. These fields have many areas of overlap with other disciplines: linguistics, neurobiology, sociology and psychology are only some of the related fields mentioned in academic works about these two fields of study.

The contents of this thesis are not meant to teach a course in Jewish sacred music. They present enough background material to provide context for the functions of the *Simanei Nusach* Symbols of Prayer-chant. Many details have been omitted, and there is a logical progression

from Hebrew grammar to Cantillation motifs, to liturgy structure, to *Nusach* modes, and to the *Simanim* graphic symbols. Along this journey the watchword is: "It is all about the **motifs!**"

## 2.4.2 Semiotics = signification in the generation of meaning in levels

There are multiple levels of meaning in any symbolic system. The field of semiotics offers approaches to ascertain what those levels of meaning might be, and how they are generated by symbols. A definition of musical semiotics is "the study of music as sign and communication"<sup>72</sup>. Dr. Tarasti continues, "... music as a sign provides an ideal case of something meaningful and communicative, and thus of something *semiotical* par excellence"<sup>73</sup>.

A third quotation from Tarasti is particularly relevant for Jewish sacred chant: "... music almost never functions without the support of other sign systems"<sup>74</sup>. Biblical chant provides the "other sign system" of the Trope symbols, which most people think are only chant indicators, but which in reality are also punctuation and accentuation indicators.

Two aspects of "musical semiotics" seem relevant for chanting Jewish sacred texts, *P'shat* and *D'rash*, especially for Biblical texts. The "discursive" or "surface" level of meaning seems similar to the concept of *P'shat* (plain meaning / translation) of a given text. This would be the equivalent of a literal translation in a Bible or prayerbook, rather than a "paraphrased" version<sup>75</sup>. The "narrative" or "deeper" level of meaning seems similar to the concept of *D'rash* (abstract meaning / explanation) of a given text. Essentially, *D'rash* (or *Midrash*) is exegesis of texts.

There are Bible translations that are not literal, but rather "paraphrases" in English that show the underlying meaning of the original language (in the opinion of the editors)<sup>76</sup>. One potential problem with this type of English version is its susceptibility to polemic, and that can also hold true for an English "paraphrase" of a Hebrew prayerbook text. One might view the huge corpus of ancient and modern *Midrash* (exegetical Bible stories) as "narrative semiotics."

From this "Jewish understanding" of semiotics, it may be plausible to suggest that musical modes and motifs of *Nusach HaT'fillah* serve as a "signification of meaning generated in prayer-texts" through their functions as discussed throughout this thesis. It is a "***discursive***" level of meaning when the modes and musical motifs of *Nusach* ***identify the liturgical occasion and the***

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<sup>72</sup> Tarasti, Eero. *Signs of Music: a Guide to Musical Semiotics*. Berlin: Mouton de Gruyter, 2002; page v.

<sup>73</sup> *ibid.*; page 4.

<sup>74</sup> *ibid.*; page 5.

<sup>75</sup> Weiss Halivni, David. *Peshat and Drash: Plain and Applied Meaning* ... New York: Oxford Univ. Press, 1991.

<sup>76</sup> Hoffman, Joel. *And God Said: How Translations Conceal ... Meaning*. New York: Thomas Dunne, 2010; pg. 69

*section of a worship service*, and it is a "*narrative*" level of meaning when those same modes and musical motifs *indicate the phrasing and "mood" of a prayer-text*, and thus its meaning.

### 2.4.3 Musical Semantics = the patterning of fluid musical meanings

Musical Semantics is a field that involves cognitive musicology and neuromusicology, both of which involve study of how the human brain processes music and emotion. Ole Kühl says:

"... there seems to be such a thing as emotive schemas, guiding our behavior ..."

"... explain, or at least describe, how ... emotion can be put into ... music by the sender, how it can be contained in the message, and how it can be taken out ... by the receiver."<sup>77</sup>

This implies that the "sender" knows what is being sent; that the prayer-leader has an idea of what the words mean, and how to express that meaning through the choice of modal musical motifs. It implies that the "message" contains emotions. They are far more powerful than the cognitive aspect of the text, which may not have much meaning even if the congregation knows what it says. It implies that the "receiver" perceives the emotions of the message, and that the chant has an effect. If it does not, there likely will be a push for participatory metric melodies.

"musical meaning is fluid. This means that some of the properties of the structure of musical content remain stable, while others fluctuate from person to person, from situation to situation, and from time to time."<sup>78</sup>

**Person:** This can mean three congregants in the same pew experiencing the liturgical chant differently; one finds no meaning and is bored, one feels comforted by the sound of the chant, and one understands the text and the music at a cognitive level that provides religious meaning .

**Situation:** This can mean that the same choice of chant versus congregational melody may work differently for a mother in different situations. When her children are with her in a service, she appreciates an upbeat melody that engages them. When her children are in babysitting or at a kids' service, she may appreciate a more relaxing melody<sup>79</sup>, or perhaps the chant of the Cantor.

**Time:** The *Hatzi Kaddish* text is identical on Friday evening, *Shabbat* morning for *Musaf*, and Saturday afternoon, but the mood is very different each time. Friday begins *Shabbat*, Saturday morning is "peak mood", and *Minchah* is near end of *Shabbat*.<sup>80</sup> These times are best reflected

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<sup>77</sup> Kühl, Ole. *Musical Semantics*. Bern, Switzerland: Peter Lang, AG, 2007; page 36.

<sup>78</sup> Kühl, *Musical Semantics* (2007) *op cit.*; page 37.

<sup>79</sup> The melodies of Shlomo Carlebach or Debbie Friedman for *V'sham'ru*, rather than the Moshe Rothblum setting.

<sup>80</sup> Discussed in Section 4.4.5 in the context of how *Nusah* reflects the moods of sacred times.



by chanting this exact same text with three completely different modalities – relaxed minor on Friday evening, upbeat Major for Musaf, and in a plaintive Minor on Shabbat afternoon.

The most complete presentation for the "state of the discipline" (as of 1992) was Monelle<sup>81</sup>. On page 28 he quotes the ethnomusicologist Bruno Nettl as suggesting that the linguistics term *phoneme* be used for music in these ways: "Pitch phoneme", "rhythmic phoneme", "harmony phoneme", and "structure phoneme". On page 75 he quotes Charles Seeger as suggesting:

"... a musical phoneme would be a single note (toneme) [sic] ... several phonemes are combined to form a morpheme ... In music, a morpheme would be a motif, a pattern of design, ..."

This makes sense as a way to describe modal musical motifs in many cultures and religions, and in Biblical Cantillation and the modes of *Nusach HaT'fillah* in particular for Judaism.

In Figure 3.6 on page 77, Monelle shows short musical motifs of Plain-chant (*scandicus*, *climacus*, *torculus*, and *porrectus*) that are strikingly similar to *Simanei Nusach* musical motifs. These are presented as examples of "musical morphemes", as described by Charles Seeger. In Figure 6.17 on page 189, there is a graphic representation of a ritual song from Veracruz.

<b>Musical motives</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
		prepositional	gerund and	
<b>Content</b>	noun	phrase	participle	verb

Figure 6.18 then adds a line of music, labeling one music motif as "A", the second as "B", etc. This same "mapping" of texts and their musical motifs could be done for *Ta'amei HaMikra* and Bible texts in Cantillation, and for *Simanei Nusach* and prayer texts in Jewish Liturgical Chant.

This is an example of "language semantics" and "musical semantics" in relationship with each other. This relationship seems germane to Biblical Cantillation, where Trope function as punctuation. There is an intersection between "language syntax" and "musical syntax" for the texts of the Hebrew Bible. Tiberian Masoretes developed *Ta'amei HaMikra* (Trope symbols) during the 800's C.E. to preserve their understanding of Biblical texts and to codify them.

There are scholars who strongly suspect "all might not be as it seems" in the results of this process<sup>82</sup>. There is a Trope named *R'vi-a*, and it represents a "comma" at the end of a phrase in

<sup>81</sup> Monelle, Raymond. *Linguistics and Semiotics in Music*. Chur, Switzerland: Harwood Academic, 1992

<sup>82</sup> Price, James. *Syntax of Masoretic Accents in the Hebrew Bible*. Lewiston, NY: E. Mellen, 1990; pages 14-15.

a Biblical text. There are other places where only a single word is marked with this *R'vi-a*, and in many of those places the word is not a "one-word phrase" that would logically have a comma.

This discussion is relevant to the analysis of how the *Simanei Nusach* graphic symbols show meaning in the liturgical texts of Jewish worship. If the 1,200 year-old Trope might not match every detail of punctuation in the Hebrew text of the Bible, how can one hope to delineate the phrasing of liturgical texts? The age-span<sup>83</sup> from the earliest prayers to the most recent ones is wider than the age-span of the Hebrew Bible texts. All Jewish communities share the Hebrew Bible, but no Masoretes codified Jewish liturgy so that all communities share identical prayers.

The new *Simanei Nusach* symbols are a teaching tool which provides a graphic indication of musical motifs and text phrasing, but **they carry no "authority"** as do the Masoretic Trope. The phrasing and modal musical motifs discussed below in Chapter 5 reflect generally accepted *Ashkenazic* tradition for liturgical chant, as taught in several Cantorial Schools. **Any Hazzan could make different choices of musical motifs for text phrases marked with the *Simanim*.**

#### 2.4.4 Some layers of "signification" in *Simanei Nusach* graphic symbols

In Chapter 5, some details of the development, functions, practical use, and application in teaching software will be addressed for the new graphic symbols. As a transition to upcoming background material in Chapters 3 and 4, here is a brief description of the *Simanei Nusach* in light of the discussion above about Semiotics and "musical semantics".

There are 18 new graphic symbols, and their shapes each reflect an aspect of their musical and phrasing functions. This set of 18 graphic symbols represents a corresponding set of up to 18 *musical motifs* within the underlying mode of a particular *Nusach HaT'fillah*. These modal musical motifs identify liturgical occasions ("when"), sections of services ("what"), text moods ("how"), text phrasing, and text meanings.

Like Biblical Trope symbols, the names and shapes of these graphic symbols do not change, nor do their functions as phrase indicators. However, like Trope symbols, the *Simanei Nusach* graphic symbols take on many different musical values within various musical modes of *Nusach HaT'fillah*. Using the language of musical semantics one can say, "*Nusach modes present the mood* of a given *prayer-section* for a given *liturgical occasion*, and *Nusach motifs present the emotions within* the particular prayer-texts."

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<sup>83</sup> Over 2,000 years from 2nd Temple prayers still being chanted to current changes and additions in new *Siddurim*.

There is a special term for the relationship between sacred Hebrew texts and the chanting of those texts. Curt Sachs<sup>84</sup> introduced the concept of chanted music being either “*logogenic*” or “*melogenic*” in nature. “Logogenic” music follows the accents and syntax of the text in a *non-metric* manner, and the inherent rhythms of the word accents are reflected in the musical motifs of the chanted text. “Melogenic” music follows the (*metric*) rhythm of the music itself, and the accents of the words conform to the beat of the music *regardless* of their own accents.

In traditional Jewish prayer-chant, the *chants* of *Nusach HaT’fillah* (Musical Prayer-modes) and its musical motifs are “logogenic” in nature. Metric *congregational melodies* (that invite the participation of the congregation) are “melogenic” or “melody-born” in nature, regardless of the actual accents in the Hebrew texts. The discussion of musical semantics in Section 2.4.3 above provides an indication of how emotions can be mediated by a choice of sacred music. There are also other tools available in several related fields within sociology, anthropology, and psychology that could be applied to the analysis of the new *Simanei Nusach* graphic symbols.

## Conclusion to Chapter 2

Chapter 2 summarized some aspects of the intended audience for which the new *Simanei Nusach* graphic symbols were created. There is a strong tendency towards "democratization" of religious leadership in synagogues of all sizes and denominations. This is partly a result of the influence from Jewish summer camps and youth groups, and partly from the entire society becoming more "do-it-yourself" (such as booking flights).

With many details to learn for Hebrew and sacred chant, there may be a lesser value being placed on "the traditional chant for a particular prayer at a given time" in the new environment of significant lay leadership. An example of this is an increase in the singing of congregational melodies, rather than the chanting of liturgical texts using modal motifs. There are other factors at work also, such as demographic shifts among congregants and changes in religious needs.

Chapter 2 presented some of the resources that are currently available for learning liturgical chant outside of a formal program, including printed, recorded, software, and Internet resources. The last section of this chapter briefly explored the two concepts of "semiotics" and "musical semantics", and drew tentative connections between those areas of study and the "signification" inherent in the new *Simanei Nusach* graphic symbols.

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<sup>84</sup> "The Rise of Music in the Ancient World" (1943), pp. 41, 42, and 52.

## Chapter 3 – Hebrew Grammar and Biblical Cantillation

### 3.1 Linguistic concepts in Hebrew Biblical & Liturgical texts

Hebrew is an ancient language that has reinvented itself as a modern language in the State of Israel. There are distinct periods in the development of Hebrew through three millennia, from Biblical and Rabbinic Hebrew through Medieval and Modern Hebrew<sup>85</sup>. These periods are also related to where the people who spoke, read and wrote Hebrew were living, and to the ways in which they used Hebrew as a spoken and written language.

The linguistic concepts phonology, orthography, morphology, and syntax are background and context for the use of Classical Hebrew in Jewish Liturgy. Hebrew is a "dense" language in which prefixes and suffixes are separate words in English translation, so the morphology of Classical Hebrew directly affects its syntax. The syntax of the texts dictates the "parsing" of sentences into phrases, which are delineated by the modal musical motifs of Jewish Liturgical Chant. These motifs are indicated by the new system of *Simanei Nusach* graphical symbols.

#### 3.1.1 Phonology: the sound patterns of a language

Phonology is the study of *phonemes* or units of sound<sup>86</sup> that combine in patterns to convey meaning in a language. Three main areas of phonological study for any given sound are the *place* of articulation<sup>87</sup>, the *manner* of articulation<sup>88</sup>, and whether the sound is *voiced* or *unvoiced*. There are also issues involved with the transition between one sound and another in speech.

According to some scholars, the phonology of Hebrew has changed somewhat during the three millennia of its existence as a language<sup>89</sup>. A look at how English has changed since the days of Chaucer shows that some change seems inevitable. Biblical Hebrew (BH) experienced relatively few changes during the transition to *Mishnaic* / Rabbinic Hebrew (RH) at the turn of the Common Era. The differences between 7th century Medieval Hebrew (MH) and Modern Israeli Hebrew (MIH) are smaller than the changes in English during the last millennium<sup>90</sup>.

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<sup>85</sup> Sáenz-Badillos, Angel. *A History of the Hebrew Language*. Cambridge, UK: Cambridge University Press, 1993; especially Chapter 7, "Mediaeval Hebrew" [sic]. Each of these is a time-bound sub-set of the Hebrew language.

<sup>86</sup> O'Grady, W. & Archibald, J., eds. *Contemporary Linguistic Analysis* (7th Ed.). Toronto: Pearson, 2012

<sup>87</sup> The interaction between the tongue and the other physical components of the vocal tract (lips, teeth, palate, etc.). Terms for these interactions include: bilabial, dental, alveolar, palatal, velar, glottal, and pharyngeal.

<sup>88</sup> How the airstream is modified as it passes through the oral cavity to produce a particular sound. Terms for this aspect of vocal production include: stop, plosive, fricative, sibilant, nasal, lateral, liquid, and glide.

<sup>89</sup> Silzer, P. & Finley, T. *How Biblical Languages Work*. Grand Rapids: Kregel Publications, 2004; page 63.

<sup>90</sup> Sáenz-Badillos, *History of the Hebrew Language* (1993), *op cit.*; pages 203-206.

### 3.1.2 Orthography: written presentation of a language

Orthography is the study of *graphemes* or units of writing<sup>91</sup> that convey meaning in any language. Most languages have a close relationship between phonemes and graphemes. During the Biblical Period and early Rabbinic Period, there were only consonants in the Hebrew *K'tiv Arami* (square Aramaic) orthography. Modern *Torah* scrolls are still handwritten with quill and ink on parchment<sup>92</sup> with only consonants – there are no vowels and no punctuation marks.

An issue with the orthography of Hebrew is that the differences between several pairs of consonants<sup>93</sup> are very small. These orthographic issues are crucial for the proper pronunciation of Hebrew, for the chanting of Biblical and liturgical texts. When mistakes are made because the *Torah* reader or Service leader confuses two consonants, the meaning of the text can change. To intercept these potential pronunciation problems, many teachers insist that students of all ages *read aloud* the Hebrew text that they are learning, *before* attempting to chant that text.

Vowels were eventually added to the Hebrew Biblical text<sup>94</sup>, and they are also used in the liturgical texts found in prayerbooks. These are dots and dashes that indicate vowel sounds, mostly under the Hebrew consonants (*sublinear*). The simplicity of this system presents an orthographic problem for the pronunciation of Hebrew, because these vowel symbols are very small<sup>95</sup> and quite similar to each other. Mistakes in meaning can arise from mispronunciations, such as changes in gender, tense (aspect), and relationships among words in a Hebrew phrase.

### 3.1.3 Morphology: the structure of linguistic units as words

Morphology is the study of *morphemes* or minimal meaningful units<sup>96</sup> of a language that can combine to form words. In most languages, words are formed by combinations of roots and *affixes* (*prefixes*, *infixes*, and *suffixes*) that are related by specific grammar rules. This is particularly important for Classical Hebrew, where a single three-consonant root<sup>97</sup> combined with various affixes can generate over 200 related verbs, nouns, adjectives and adverbs through the *conjugation* of verb forms and the *declension* of noun forms.

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<sup>91</sup> Waltke, B. & O'Conner, M. *An Introduction to Biblical Hebrew Syntax*. Winona Lake, IN: Eisenbrauns, 1990

<sup>92</sup> Please see Appendix B-1, "Hebrew *Alef-Bet*" and Appendix E-5 "Scroll and *Sofer* Tools"

<sup>93</sup> Please see Appendix B-2, "Similar Consonants".

<sup>94</sup> Discussed in Section 3.3 below.

<sup>95</sup> Please see Appendix B-4, "Hebrew Vowels".

<sup>96</sup> O'Grady & Archibald, *Contemporary Linguistic Analysis*, (2012) *op cit.*; page 103.

<sup>97</sup> Please see Appendix B-8 and B-9, "*K.D.Sh.* Root".

The Hebrew term for the three-consonant “root” of Hebrew words is *Shoresh*, which means “root” but which can also mean “basis”, “origin”, and “source”<sup>98</sup>. Another English term for the three-letter root of Hebrew words is “stem”<sup>99</sup>, and an English term for each consonant in a root is “radical” – usually three per root<sup>100</sup>, but sometimes two or four. Among resources on Hebrew grammar, there are various designations<sup>101</sup> of the individual radicals within a three-letter root.

Hebrew prefixes<sup>102</sup> include a definite article (... ה ) = (the ...), conjunction (... ו ) = (and ...), and the “bound prepositions” (... ב ) = (in ...), (... כ ) = (as ...), and (... ל ) = (to ...) or (for ...), among other parts of speech. In the “future tense” (“imperfect aspect”) of verbs, prefixes can indicate 1<sup>st</sup> / 2<sup>nd</sup> / 3<sup>rd</sup> *person*, masculine / feminine / common *gender*, and singular / dual / plural *number*. These are often summarized by the acronym “PGN” for *person*, *gender*, and *number*.<sup>103</sup> Many of these prefixes are useful for **determining where phrases begin** in Biblical and I texts.

The most important aspect of Hebrew morphology is its affect on the “density” of Biblical and liturgical texts, and how that affects Hebrew syntax. Hebrew prefixes and suffixes are often separate words in English translation<sup>104</sup>. It may take three or four English words to translate one Hebrew word, if it has both a prefix and a suffix. A combination of “prefix + root + suffix” can contain an entire short phrase in a single Hebrew word, such as *V'ahavta* (“and you shall love”).

This results in a “dense”<sup>105</sup> language, where meaning is conveyed by only a few syllables per word and only a few words per phrase. This works partly because of the Hebrew vowels, which facilitate subtle changes in the meaning of otherwise similar words. One Hebrew root generates many verbs, nouns, adjectives and adverbs from the interaction of vowels, prefixes, and suffixes with the same three root consonants<sup>106</sup>. This interaction may be more characteristic of Semitic languages than many other languages, because of the clear “root” structure. This also affects the syntax of Classical Hebrew, which differs from that of Indo-European languages.

<sup>98</sup> Alcalay, Reuben. *The Complete Hebrew - English Dictionary* (2 Volumes). Tel Aviv: Miskal / Yedidoth Ahronoth / Chemed Books, 1963 / 2000. (Vol. 2, column 2726).

<sup>99</sup> There may be some ambiguity among scholars whether “root” and “stem” are both the same as *Shoresh*

<sup>100</sup> Waltke & O'Connor, *Biblical Hebrew Syntax* (1990), *op cit.*; page 83.

<sup>101</sup> These include: “I”, “II”, and “III”; “R<sub>1</sub>”, “R<sub>2</sub>”, and “R<sub>3</sub>” (for “Radical 1”, etc.); and the three Hebrew letters of the word *Po-al* (“verb”) – *Pey* ( פ ), *Ayin* ( ע ), and *Lamed* ( ל ). cf. Waltke & O'Connor, *ibid.*, page 34.

<sup>102</sup> Please see Appendix B-6, “Hebrew Prefixes Chart”

<sup>103</sup> The “PGN” must “agree” between subjects and verbs, nouns and adjectives, and other word combinations.

<sup>104</sup> As mentioned in the introductory paragraphs of Section 3.1 above.

<sup>105</sup> Please see Appendix B-5, “English Word-Length Differences”

<sup>106</sup> An example of vowels interacting with consonants is in Appendix B-3, “English Words from Two Consonants”.

### 3.1.4 Syntax: how words combine as phrases and clauses

Syntax is the process by which words are joined together<sup>107</sup> to form sentences in a language. Every language has its own rules for how words are joined into phrases, phrases into clauses, and clauses into sentences. In the Hebrew Bible and Jewish liturgy, there is a direct correlation between the syntax of phrases and the chanting of the sacred texts with modal musical motifs.

In syntax of Classical Hebrew, the usual word-order is “*verb – subject – object*” (“VSO”), as opposed to the order “*subject – verb – object*” (“SVO”) of many Indo-European languages. With the verb at or near the beginning of a sentence, subsequent phrases are often *modifiers* of the main verb, or the *subject* or the *object* of the verb. The term *complement* is used for phrases or words that *interact with the verb* in a sentence<sup>108</sup>. A single Hebrew word, often with both a prefix and a suffix surrounding its root, can essentially function as a complete phrase<sup>109</sup>.

Hebrew conjunctions and prepositions<sup>110</sup> are used to parse a sentence into phrases<sup>111</sup>, and to parse phrases into segments and “word-pairs”. “Word-pairs” include *verb / subject*, *verb / direct object*, *preposition / object*, *noun / adjective*, *verb / adverb*, and *noun / appositive* (David the King). Other word-pairs are *merisms* such as “day and night”, *hendiadys* such as “formless and void”, words *repeated for emphasis* such as *Mot Yamut* (dead, very dead), and *S’michut* pairs of nouns (*absolute / construct*) that show *possession* or description without the word “of” between the two nouns<sup>112</sup>, such as *B’nei Yisrael* (Children of Israel) or *Torat Emet* (*Torah* of Truth).

The most important aspect of Hebrew syntax is how it affects the chanting of Biblical and liturgical texts. In the Hebrew Bible, Cantillation symbols (Trope) indicate relationships among phrases, and also relationships between pairs of words. This system is reflected in the chanting of the Cantillation motifs, assigned in the 800's C.E. by the Tiberian Masoretes<sup>113</sup>. The *Simanei Nusach* graphic symbols also delineate phrasing in the texts and in the modal musical motifs of Jewish Liturgical Chant, following the logical syntax of the Classical Hebrew prayer-texts.

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<sup>107</sup> Arnold, B. & Choi, J. *A Guide to Biblical Hebrew Syntax*. New York: Cambridge University Press, 2003

<sup>108</sup> Jacobson, *Chanting the Hebrew Bible* (2002), *op cit.*; pages 42-45.

<sup>109</sup> Please see Appendix B-16, “*V’ahavta* with Parts of Speech” and B-17, “*V’ahavta* Sentence Diagrams”.

<sup>110</sup> Please see Appendix B-10, “Prepositions and Conjunctions” and B-13, “Learning a Hebrew Text”.

<sup>111</sup> Two types of *prepositions* in Hebrew are “bound” as prefixes to Hebrew roots (or connected with a hyphen called a “*Makkeif*”), and “free-standing” as separate words. These indicate “relative position” in time and in space: the *relative physical position* (such as “between”), and the *direction of movement* (such as “from”).

<sup>112</sup> Jacobson, *Chanting the Hebrew Bible* (2002) *op cit.*; pages 465-466.

<sup>113</sup> Discussed in Section 3.3 below.

## 3.2 Structure and Development of the Hebrew Bible

The oldest and most basic sacred text of Judaism that has survived relatively intact is the Hebrew Bible. It is the source of many texts included in traditional Jewish liturgy, especially the Psalms. During the cycle of the religious year, including Weekdays, *Shabbat*, and the texts of various Jewish holy day liturgies, about half of the Psalms are chanted in whole or in part. Other Biblical texts are included verbatim as prayer-texts<sup>114</sup>, especially from the *Torah*. More important than the role of the Hebrew Bible as a source of Jewish prayer-texts is its role in the development of Jewish sacred chant (and Christian sacred chant, via Plain-song).

Chapter 3.1 briefly discussed the effects of morphology on the syntax of Classical Hebrew, and this issue informed the phrasing of Biblical texts long before it had an affect on the texts of Jewish liturgy. The characteristic of “much meaning conveyed by few words” led to the system of vowels and Cantillation marks<sup>115</sup> developed by the Tiberian Masoretes. In turn, this later led to the phrasing and modal musical motifs of Jewish Liturgical Chant, which are indicated by the new graphical symbols *Simanei Nusach* (Symbols of Prayer-chant) developed by this author.

### 3.2.1 The Hebrew Bible is in the chronological order of its development

Before discussing details of how the Tiberian Masoretes assigned vowels for pronunciation and Trope symbols for punctuation, accentuation, and chanting of the Biblical text, there are two preliminary subjects worth discussing briefly. One is answering the basic question, “What is the Hebrew Bible?” and the other is a brief exploration of its development during the first millenium B.C.E. This discussion will cover only “basics” as background for the work of the Masoretes.

The Hebrew term for the Bible is an acronym; *TaNakh* (or *TaNakh*) is an abbreviation of the first letters in the Hebrew words for the three sections<sup>116</sup> of the traditional Hebrew Bible<sup>117</sup> – *Torah*, *N'vi-im*, and *K'tuvim*. The caveat “traditional” is added, because the Old Testament of the Christian Bible is not in the same order as the Hebrew Bible. Thus the term *TaNakh* is not appropriate as a “descriptive title” for the Christian Old Testament.

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<sup>114</sup> These include *V'sham'ru* (Ex. 31:16-17) and *Vaychulu* (Gen. 2:1-3) on *Shabbat* evening, and *V'ahavta* (Deut. 6:4-9), *V'hayah* (Deut. 11:13-21), and *VaYomer* (Num. 15:37-41) every morning and every evening year-round.

<sup>115</sup> To be discussed in detail in Sections 3.3 and 3.4 below.

<sup>116</sup> Please see Appendix C-1 "*TaNakh* (Hebrew Bible) Structure"

<sup>117</sup> The “T” in *TaNakh* is from *Torah* (“Teaching”), the first five books of the Hebrew Bible and the Old Testament (O.T.). The “N” in *TaNakh* is from *N'vi-im*, (“Prophets”), the second section of the Hebrew Bible. The “Kh” or “K” (same consonant *Kaf/Chaf*) in *TaNakh* is from *K'tuvim* (“Writings”), the third section of the Hebrew Bible.



The three “Poetic Books” at the beginning of *K’tuvim* are Psalms, Proverbs, and Job. In Hebrew their names are *T’hillim*, *Mishlei*, and *Iyyov* respectively, and the first letters of these Hebrew names have been rearranged to form the acronym *EMeT* to identify the poetic texts of these three books, and their unique system of Trope which differs from the “Prose Books”.

The five books chanted on Jewish holy days are called the *Chameish M’gillot* (Five Scrolls) in Hebrew, and they will be described below. Their Trope symbols are chanted with different musical modes than those of the *Torah* or the Prophetic books. In the order that they appear in the Hebrew Bible, these are the Song of Songs, Ruth, Lamentations, Ecclesiastes, and Esther.

### **3.2.2 The Old Testament rearranges these in the order of their events**

For almost 2,000 years, the Hebrew Bible has been organized into the order in which the books were most likely written. The Christian Old Testament rearranges the order of the books to reflect the approximate chronology of their subject matter. The traditional order of the books in the *TaNaKh* reflects two important aspects of the context for Biblical chant, and for the Jewish Liturgical Chant that is based on the older Biblical Cantillation.

The first is the fact that Jews have continued to study the Hebrew Bible in the order in which it was both compiled orally and eventually written. This gives a linear character to the development of the sacred Biblical text. The second is the fact that the books of the *Torah* and Prophets are chanted weekly, while the *Chameish M’gillot* are in their calendrical order through the religious year for the specific Jewish holy days during which these five books are chanted.

### **3.2.3 Torah is used liturgically, as are Prophets and "Five M’gillot"**

In most synagogues worldwide, one highlights of the *Shabbat* morning worship service is the chanting from the *Torah* scroll. The five books of the *Torah* are divided into 54 *Sidrot* (singular *Sidrah* or “*Torah* Portion”), one for each week of a “full lunar year” (13 months). A “full year” only happens about one of every three years (seven times in a 19-year cycle), so up to seven pairs of *Sidrot* may be combined throughout the religious year during the remaining 12-month years. The number of “Combined Portions” (*M’chubarim*) also depends on how many holy days fall during *Shabbat* in a given year<sup>118</sup>, because each of them has a special *Torah* portion.

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<sup>118</sup> Most of the holy days can fall on *Shabbat*, except for *Purim*. There is also usually a *Shabbat* in the middle of the week-long *Hanukkah*, Passover, and *Sukkot*, and twice each year *Rosh Chodesh* will fall on *Shabbat*. For some of these there is a different *Torah* Portion entirely, and for others there is an extra “*Maftir*” *Torah* reading.

The *Torah*<sup>119</sup> is chanted in a particular modality in a given type of community, and the Trope (Cantillation symbols) in a printed *Chumash* serve as a guide to the musical motifs of that chant. Several sub-sections of the weekly *Torah* Portion are chanted, usually seven and an extra *Maftir*. This is followed by a *Haftarah* chanting from a Prophetic book, and the Prophetic subject matter is usually related to that of the *Torah* Portion<sup>120</sup>. For many young people celebrating the rite of passage known as *Bar / Bat Mitzvah*, this *Haftarah* is a large part of their public chanting.

Five books in *K'tuvim* are chanted for liturgical purposes during the annual cycle of holy days. The *Chameish M'gillot* (Five Scrolls) and their occasions are as follows: *Shir HaShirim* (the Song of Songs) during *Pesach* (Passover), *Rut* (Ruth) during *Shavuot* (Feast of Weeks, the Spring Harvest), *Eichah* (Lamentations) during *Tisha B'Av* (9th Day of the summer month *Av*), *Kohelet* (Ecclesiastes) during *Sukkot* (Feast of Booths, the Fall Harvest), and *M'gillat Ester* (the Scroll of Esther) during *Purim* (early Spring).

Three of these occasions are the *Shalosh R'galim* (Three Pilgrimage Festivals), during which pilgrims brought sacrifices to the Tabernacle and later to the Temple in Jerusalem (per Ex. 23, Lev. 23, Num. 28-29, Deut. 16). *Pesach*, *Shavuot*, and *Sukkot* mark points in the agricultural cycle of harvests, and they have historical connections to the Exodus from Egypt, the Divine encounter at Mt. Sinai, and the forty years of wandering in the Sinai Wilderness. These ancient agricultural and historical connections are reinforced by the lyrical chant of their Biblical books.

The chanting various books of the Hebrew Bible in a liturgical context can be summarized with a list of the six types of Biblical chant in almost every type of Jewish community. These are *Torah*, *Torah* chant on the High Holy Days (*Yamim Nora-im*), Prophetic books (*Haftarah*), *Ester*, *Eichah*, and three books chanted on the Three Pilgrimage Festivals (*Shalosh R'galim*) which are *Shir HaShirim*, *Ruth*, and *Kohelet* ("*RaKaSh*" is one abbreviation for these).

Details of several musical aspects inherent in these six types of Biblical Cantillation will be found in Section 3.5 below. Chapter 4 will discuss how the structure of Jewish liturgy is also related to the cycle of the Jewish religious year. Some aspects of the relationships between the musical motifs within these six systems of Biblical Cantillation and the musical motifs within the "Musical Prayer-modes" of *Nusach HaT'fillah* will be discussed in Chapter 5.

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<sup>119</sup> Please see Appendices C-3, "*Torah* Scroll and Model *Torah*" and C-5, "Handwritten Scroll and *Sofer* Tools".

<sup>120</sup> Please see Appendix C-2, "Why Chant *Torah*?"

### 3.2.4 Development of the Hebrew Bible over many centuries

There is scholarly debate about the dating of individual books within the *TaNaKh*, and about the dates when the three sections were redacted and codified. However, there is much scholarly agreement about the idea that there were oral traditions for many centuries among various groups in ancient Israel, and that it was during the first millennium B.C.E. that these oral traditions were set in written form. Dead Sea Scrolls fragments from almost every book<sup>121</sup> of the Hebrew Bible indicate that most of the written *TaNaKh* texts were completed near the turn of the Common Era.

The "Documentary Hypothesis" is one specific scholarly approach to the Hebrew Bible as it applies to the *Torah* in particular. Julius Wellhausen proposed in the 19th century that there were four editors or redactors for four streams<sup>122</sup> of oral tradition. "J" was the "Yahwist" who reflects traditions of the Southern Kingdom, "E" was the "Elohist" who reflects traditions of the Northern Kingdom, "P" was the "Priest" who wrote the cultic and genealogical material, and "D" was the "Deuteronomist" responsible for the Book of Deuteronomy.

For several decades, this version of the Documentary Hypothesis has been challenged by a somewhat different idea<sup>123</sup>. This newer approach agrees that (at least) four separate streams of oral tradition contributed to the eventual redaction of the *Torah* text. However, there may not have been single authors of the component texts, nor a single Redactor for the entire *Torah* text.

One area of possible future research is the correlation of the Masoretic Cantillation symbols relative to the syntax of various Hebrew Bible texts. This could include an examination of the relationship between the Tiberian Trope and the "streams of tradition" identified by scholars of the Hebrew Bible. An aspect of the more recent version of the Documentary Hypothesis is the manner in which various Bible passages have different Hebrew writing styles. This might be reflected in the Trope assigned by the Tiberian Masoretes, since the punctuation functions of the Trope purportedly reflect the syntax of the Hebrew texts. It is possible that the correlation of the "Trope syntax" and the "text syntax" might not be as close as the system is supposed to be.

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<sup>121</sup> Abegg, M., Flint, P., and Ulrich, E., eds. *The Dead Sea Scrolls Bible*. San Francisco: Harper Collins, 1999.

<sup>122</sup> In its original form, this "J-E-P-D" Documentary Hypothesis reflects different styles of writing found in the *Torah*. These are *separate versions* of the same story, such as the Creation narrative in Gen. 1:1 – 2:3 versus Gen. 2:4 – 2:25, which seem contradictory in their details. These are also *interwoven* stories such as the Flood narrative in Gen. 6:5 – 9:17, where the "J" version speaks of a 40-day Flood and "P" of a 150-day Flood.

<sup>123</sup> Van Der Toorn, Karel. *Scribal Culture and the Making of the Hebrew Bible*. Cambridge, MA: Harvard University Press, 2007; Chapter 4.

### 3.2.5 Theories about the *Torah* include Tetrateuch, Pentateuch, Hexateuch

There is scholarly disagreement about which Biblical books should properly be considered to be the original *Torah*. There are three choices: the *Pentateuch* as we now know the "Five Books of Moses", a *Tetrateuch* of Genesis through Numbers<sup>124</sup>, and a *Hexateuch* of Genesis through Joshua<sup>125</sup>. There are also disagreements about dating the various books of the Bible.

Since Jewish religious tradition has universally accepted the *Pentateuch* as the *Torah* for two millennia, these concepts of *Tetrateuch* and *Hexateuch* will not change the way anyone chants the *Torah* in synagogues. They remain issues of scholarly debate, but for the purposes of this thesis it is instructive how far-reaching debate can get in the field of Bible scholarship. This will have an impact in Chapter 4, where the development of Jewish liturgy is discussed.

The removal of the *Musaf Amidah* section in some Reform and Reconstructionist liturgies reveals that issues of identifying religiously accepted sacred texts are somewhat contentious. Since these same "content" differences are also relevant for the chanting of Jewish liturgy, these ongoing issues directly affect the preparation of modern teaching materials. This in turn has had an impact on making the new *Simanei Nusach* graphic symbols of liturgical modal musical motifs relevant for those denominations that have abridged their liturgies.

There are two issues that are relevant for both Biblical and liturgical texts, and for chanting both. There are *boundaries* for identifying *what is considered a sacred text* – ancient boundaries for the Hebrew Bible, and ongoing boundaries for Jewish liturgy. The second issue of *when* a particular text became sacred has *an effect on how it is chanted*, for both Bible and liturgy. Just as there is disagreement on dating the books of the Hebrew Bible, there is similar disagreement on dating many elements of traditional Jewish liturgy.

This is compounded by a tendency in the development of modern prayerbooks to both add and remove texts<sup>126</sup>. As new texts are added, Cantors and other prayer-leaders are responsible to chant these in the appropriate *Nusach HaT'fillah* (Musical Prayer-modes) of the surrounding sections of liturgy. If this is not accomplished, many functions of the modal musical motifs in *Nusach* will not be effective: identifying *sacred time*, *sections* of liturgy, and *moods* of prayers.

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<sup>124</sup> This concept links Deuteronomy with Joshua, Judges, Samuel, and Kings as the "Deuteronomistic History".

<sup>125</sup> This concept links Deut. only with Joshua. See Van Der Toorn, *Scribal Culture* (2007) *op cit.*, Chapter 6.

<sup>126</sup> As will be discussed in Section 4.2.3 below.

### 3.3 Innovations of the Masoretes for vowels and Trope

For many centuries, the Hebrew Bible existed in writing as a consonantal text handwritten on parchment scrolls. It was the responsibility of community leaders to communicate the Oral Tradition of pronunciation and chanting through the generations. The combination<sup>127</sup> of three-consonant roots and prefixes or suffixes presents Classical Hebrew as a "dense" language, and slight changes in pronunciation can cause large changes in meaning. As life grew tenuous, a system was needed to codify the pronunciation, punctuation, and meaning of the Hebrew Bible.

#### 3.3.1 Transmission of the ancient consonantal *TaNaKh* texts

The *Torah* scroll used during worship services in synagogues is handwritten<sup>128</sup> by a *Sofer* in columns with a quill and hand-made black ink on large rectangular pieces of parchment. These are sewn together with animal sinews into a long scroll that is attached onto two wooden rollers, and this sacred scroll is protected (with the other *Torah* scrolls) in an *Aron HaKodesh* (the Holy Ark), a special cabinet at the front of a synagogue sanctuary.

The *Torah* scroll contains only the consonantal Hebrew *Torah* text<sup>129</sup>, with two types of spaces that indicate breaks in the text<sup>130</sup>. There are no "dots and dashes" for the vowels, and no Trope symbols for accents and punctuation. When a person prepares to chant from the *Torah* scroll, he or she uses a *Tikkun*, a large book with parallel columns. One has the "*Torah* scroll text" and the other column has the "*Chumash* text" with vowels and Cantillation symbols. The *Torah* reader follows in the scroll with a pointer (often silver) during the public chanting.

#### 3.3.2 Two early attempts for accentuation and punctuation

Four Hebrew consonants were given the additional role of "vowel-letters" before the turn of the Common Era. This transformation can be dated to this time-period because these letters appear as vowels in many of the Dead Sea Scroll texts, although the manner in which they are used sometimes differs from their use in later Hebrew consonantal texts<sup>131</sup>. These four vowel-letters are called *matres lectionis* (mothers of reading) in Latin and *Immot HaK'ri-ah* in Hebrew.

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<sup>127</sup> Discussed above in Section 3.1.3, in the context of morphology.

<sup>128</sup> Please see Appendix C-4, "Development of Masoretic Tradition", for a short summary of the ensuing discussion.

<sup>129</sup> See "R-D Words from Two Consonants" in Appendix B-3. These 24 words form *homonyms*, *homophones*, and *homographs*. The three-letter roots in the consonantal *Torah* scroll text present similar challenges of meanings.

<sup>130</sup> A *Stumah* (closed space) is nine letter-spaces long with text on both sides, and a *P'tuchah* (open space) is open on the end, like a paragraph ending in English. There are no other types of break in the handwritten *Torah* text.

<sup>131</sup> Hoffman, ... *Beginning* (2004) *op cit.*; pg. 150 and Sáenz-Badillos, *History ... Hebrew Language* (1993) *op cit.*

These four "vowel-letters" are *Alef* ( א ), *Hey* ( ה ), *Vav* ( ו ), and *Yod* ( י ). *Alef* ( א ) and *Hey* ( ה ) show the "ah" sound at the beginning and end of words, *Yod* ( י ) shows the "ee-ey" sound (usually not the "eh" sound), and *Vav* ( ו ) shows the "oh-oo" sound<sup>132</sup>. These match the three vowel categories of Semitic languages: "ah" ( a ), "ee-ey" ( i - e ), and "oh-oo" ( o - u ).<sup>133</sup>

Even with the addition of these four dual-function *Immot HaK'ri-ah*, the consonantal *Torah* and other Bible texts were transmitted mainly through chanted Oral Traditions, which preserved the pronunciation and meaning of these sacred texts. Eventually the Jewish communities that preserved these Oral Traditions came under attack, and there was concern that the oral "chain of transmission" of these traditions could be broken. A more detailed method of notating vowels and punctuation was needed, without making changes to the accepted consonantal *Torah* text.

There were two attempts to do this during the second half of the 1st Millennium C.E., one in the Babylonian Jewish community and one in northern Palestine. The Babylonian system used dots and other symbols for vowels *above* the consonants, where there is already a horizontal bar of ink for most consonants. They also used tiny Hebrew letters for the names of several Trope.

Another pre-Tiberian system of Trope symbols and vowels was organized in Palestine, and it shared some of the same problems as the Babylonian attempt. Again, the vowels and Trope were above the Hebrew consonants, where it is hard to see them against the heavy top bar of ink. There were fewer Trope symbols, and these were mostly Disjunctive (Separator) symbols.

### 3.3.3 Masoretic 9th century innovations for a vowel system

During the 800's C.E., a family of Masoretes worked on a system of graphic symbols for vowels and Cantillation in Tiberias, a city in the Galilee. While there were four generations of a single family working on the details of this new system, the names that are best known are Aharon ben-Moshe ben-Asher and his father Moshe ben-Asher (*ben* is "son")<sup>134</sup>.

The solution of the Masoretes was to assign *dots* and *dashes* as symbols for vowels within the Biblical text. These are directly below the existing consonants (two are in other places), and this did not require changes in the consonants of the sacred texts. By adding vowels and thereby fixing the meaning of the Hebrew words, the Masoretes ensured that the Biblical texts would be

<sup>132</sup> In Modern Israeli Hebrew these four vowel-letters are still often used. The dots and dashes of Hebrew vowels do not appear in most printed Hebrew writing found in newspapers, fiction and non-fiction books, and letters.

<sup>133</sup> Kittel, Hoffer, & Wright. *Biblical Hebrew* (2nd Ed.). New Haven: Yale University Press, 2005; pages 5 - 7.

<sup>134</sup> There is another known Masorete, Moshe ben-Naftali, who also worked in Tiberias on a similar new system of graphic symbols. His system has been compared to that of the ben-Asher family as a source of variant readings.

codified for future generations as they had received it. Their new vowel system was legible and logical, and it spread rapidly through the medieval Jewish communities of Europe and Asia<sup>135</sup>.

The orthography of the Masoretic vowels may be related to their phonology. The three vowel-classes in Semitic languages were mentioned in Section 3.3.2 just above. Three aspects of vowel production are the *horizontal* point (front, central, or back) in the oral cavity, the *vertical* level of the tongue (high, mid, or low), and if the lips are *rounded*. The Masoretic symbols for the "open front" vowels "eh", "ei", and "ee" are ( ֶ ), ( ֵ ), and ( ִ ) respectively. These correspond to the tip of the tongue being in low, medial, and high positions respectively, while the jaw remains in a stable position for all three of these vowel sounds.

### 3.3.4 Masoretic innovations for punctuation and accents

Vowels can help differentiate meaning among words that share the same three-consonant roots, and sometimes also the same prefixes or suffixes. The Tiberian vowel system enabled the Masoretes to codify the pronunciation (and the meaning) of individual words in the Hebrew text of the Bible. However, they needed another set of graphic symbols to elucidate the punctuation, accents, and syntax (and thus the meaning) of verses, clauses, and phrases within the texts.

These same Masoretes also added Cantillation symbols that serve as punctuation marks and as accentuation, further codifying the Biblical texts. There are 27 graphic Trope symbols, with slightly more than half *above* the letters and slightly fewer than half *below* the letters (next to the vowels). There are two categories: "Disjunctives" ("Separators") and "Conjunctives" ("Joiners")<sup>136</sup>. Two-thirds of the 19 *Disjunctive* Trope symbols are *supralinear* (placed *above* the consonants), while six of the eight *Conjunctive* Trope symbols are *sublinear* (*below* the consonants).

There is a question whether the Masoretes were using their new graphic symbols for vowels and Trope to **record the Oral Tradition** of pronunciation and meaning they inherited, or if they were proactively **establishing a standard** of pronunciation, thus codifying their understanding of the Hebrew Bible for the future. The Tiberian Masoretes may have been doing *both* of these simultaneously, by codifying the vowels, accents, and phrasing of the "received tradition". The fact that their system of vowels and Trope became accepted by virtually all Jewish communities worldwide indicates that it effectively communicates the meanings of the Biblical texts.

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<sup>135</sup> Please see Appendix C-6 for images of the Aleppo Codex (930 C.E.) and the Leningrad Codex (1009 C.E.).

<sup>136</sup> Please see Appendices C-7, C-8, C-9, and C-10 for visual presentation of these Cantillation symbols.

### 3.3.5 Masoretic apparatus for textual emendations

The legacy of the Tiberian Masoretes goes beyond their creation of a useful graphic system for Hebrew vowels and Trope symbols. They had other ways of ensuring that the Hebrew Bible text would not be changed in the future. At the end of each Biblical book they listed the number of *parashiyot* / *sidrot* (paragraph sections), verses, and words in that book – the *Masorah Finalis* (end-notes – *Mf*). The Masoretes also devised a system of textual emendation whereby they identified perceived corruptions in the received Biblical text, and put the "proper reading" in the margins of the text<sup>137</sup> - the *Masorah Parva* (Lesser Tradition – *Mp*), also known as *K'ri* / *K'tiv*.

All this was done in "*Codex*" form, not in the sacred scrolls. A parchment Codex has top and bottom margins on every page, and margins alongside each column of Hebrew text. These vertical margins were used for emendation of words in every Biblical book. The most useful of these is the system of *K'ri* / *K'tiv* (*chanted* versus *written*) notes in the *Masorah Parva*. Certain word frequencies are also listed in the "Mp" of some Codices. In the top and bottom margins of certain Bibles are more extensive notes called the *Masorah Magna* (Greater Tradition – *Mm*)<sup>138</sup>. Notes in the "Mm" include the frequency of phrases, and comparative texts in various Bibles.

### 3.4 Applications of the Trope to six Cantillation Systems

It is worthwhile to ask the question, "*Why* is it important to chant aloud these Biblical texts in Jewish public worship?" The answers to this basic question will have echoes in Chapter 4, where similar issues will be discussed for Jewish Liturgy. The chanting of Cantillation motifs for the Hebrew Bible is related to how the motifs in Nusach HaT'fillah reflect the punctuation and syntax of Jewish Liturgy. Masoretic Trope are related to the new Symbols of Prayer-chant.

The first answer to the question "Why chant Bible?" is to beautify the religious experience of public worship. The concept *Hiddur Mitzvah* (beautify a ritual) is pervasive throughout all denominations of Judaism<sup>139</sup>, and chanting sacred texts is one good way to fulfill that tendency. Chanting also provides a "horizontal" connection with Jewish communities worldwide who are chanting similar Biblical texts each *Shabbat*, and a "vertical" connection with twenty centuries of Jewish ancestors who chanted these same sacred texts from *Torah* scrolls and Hebrew Bibles.

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<sup>137</sup> Dotan, Aharon. "Masorah". *Encyclopedia Judaica*, Vol. 16, columns 1401-1482. Jerusalem: Keter, 1972

<sup>138</sup> Kelley, Mynatt, Crawford. *The Masorah of Biblia Hebraica Stuttgartensia*. Grand Rapids: Eerdmans, 1998.

<sup>139</sup> Please see Appendix C-2, "Why Chant Torah?"



There are “affective” aspects of chanting the Hebrew Bible, such as the fact that music can convey more emotion than speech, and it is easier to project the voice while singing or chanting than merely speaking. There are “cognitive” aspects of Biblical chant also, such as the fact that the cycles of *Torah* and Prophetic readings (and also the Festival-based *Chameish M’gillot*) reinforce where a community is at any time in the cycle of a religious year.

### 3.4.1 Punctuation is indicated by Disjunctives and Conjunctives

Issues of accentuation, punctuation, and intonation are addressed by the system of *Ta’amei HaMikra* and the chanting thereof in any given Biblical book. *Ta’amei HaMikra* are first and foremost an exquisite system of punctuation for the Hebrew Bible. They are also, by virtue of their placement within each word, a system of accentuation. Lastly (and least importantly), they happen to indicate the musical motifs of Biblical chant for various books of the *TaNakh*.

There are 19 “Disjunctive” or “Separator” Trope symbols, and 8 “Conjunctive” or “Joiner” Trope symbols<sup>140</sup>. One way of illustrating this phenomenon in the Hebrew Bible is to examine Numbers 25:9b. The Hebrew for how many Israelites died in a plague is “*ar-ba-ah v’-es-rim alef*.” That can mean two different numbers: “*ar-ba-ah — v’-es-rim alef*” means 20,004 people, but “*ar-ba-ah v’-es-rim — alef*” means 24,000 people. Because the two Trope symbols on the word-pair “*ar-ba-ah v’-es-rim*” are a Conjunctive ("Joiner") and Disjunctive ("Separator") pair, the meaning is therefore “24,000” Israelites who died.

While Biblical parallelism is easiest to see in the three Poetic Books and in poetic passages embedded in the Prose Books, there is parallelism in many prose passages also. Many verses have a significant division between their two main clauses, because the second clause restates the idea carried in the first clause. That main “dividing point” is marked by the Trope *Etnachta* ("Rest"), and it looks like a tiny wishbone under a word near the middle of a Biblical verse.

Within each clause (the “a” and “b” halves of a verse), there are likely to be phrases. These can be strings of words, or a single Hebrew word with a prefix and/or a suffix. Often these are *prepositional phrases* (either word-strings or single words with affixes), and often the function of these subordinate phrases is to *modify* a *verb*, a *subject noun*, or an *object noun* (or *pronoun*). The Disjunctive Trope help visually and musically delineate<sup>141</sup> these phrases within verses.

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<sup>140</sup> Please see Appendices C-7, "Biblical Cantillation Trope Families", and C-8, "Trope Families with Word Boxes".

<sup>141</sup> Please see Appendices C-13, "Disjunctive Trope Hierarchy" and C-14, "Disjunctive Phrase Levels".

The goal of “recursive dichotomy” among Biblical Trope<sup>142</sup> is to identify “word-pairs” in Biblical texts. Given the syntax structure of “VSO” (verb - subject - object), word-pairs can include *verb - subject*, *verb - direct object*, *preposition - object*, *noun - adjective*, *verb - adverb*, *noun - appositive*, “hendiadys”, “merisms”, *emphasized* pairs, and *S’michut* pairs of *nouns* in the absolute - construct relationship. These word-pairs are all marked by *pairs* of Conjunctive and Disjunctive Trope symbols, and this aspect of punctuation is mediated by the Trope symbols.

### 3.4.2 Accentuation is indicated by placement *over* or *under* syllables

There are two types of primary accents in Hebrew: *Mil’ra* or “Ultima” (“Tonic” in some grammar books), and “*Mil’el*” or “Penultimate” (“Pre-Tonic” in the same books). Occasionally there is a primary accent three syllables from the end of a word, and the technical term for that situation is “Pro-Pre-Tonic” in some books of Hebrew grammar. In the Hebrew Bible, these are marked by the placement of a Trope *over* or *under* the *accented* syllable<sup>143</sup>.

From discussions over the years with various Hebrew scholars, it seems that about  $\pm 80\%$  of Classical Hebrew words have the final (*Mil’ra*) primary accent, and perhaps  $\pm 20\%$  have the penultimate (*Mill’el*) primary accent. This author is not aware of studies that have been done on this subject, but the issue of accentuation can literally change the meaning of a Biblical text.

The first word of Deut. 6:5, a passage included in the evening and morning public worship service, is *V’-a-hav-ta* (And you shall love), referring to loving God. If the accent is placed on the *penultimate* syllable (*V’-a-HAV-ta*), this word means “You *used to* love God”, which implies that one *no longer* needs to love God. If the accent is placed on the *final* syllable (*V’-a-hav-TA*), the meaning is “You *shall* love God”, implying to *do so forever*.

### 3.4.3 Musical chant reflects which Biblical book is being chanted

Before addressing the “Levels of Pausal Power” among the main “Disjunctive” Trope, it is useful to briefly review the occasions on which various Biblical books are chanted throughout the cycle of a Jewish religious year<sup>144</sup>. For the purpose of this short review, the familiar terms “Major” and “Minor” will be used to describe the musical tonality of each chant system.

<sup>142</sup> Discussed in Section 3.1.4 above.

<sup>143</sup> For some longer Hebrew words, there is a secondary accent closer to the beginning of the word. In a *Mil’ra* (Ultima) accented word, the secondary accent will be three syllables from the end of the word, and in a *Mill’el* (Penultimate) accented word, the secondary accent will be four syllables from the end of the word. Secondary accents are marked by either a Conjunctive Trope, or by a *Meteg* (a vertical line *under* an *accented* consonant).

<sup>144</sup> Discussed in more detail in Section 3.5 below.

The *Torah* is chanted every *Shabbat* morning, and in many synagogues it is also chanted on *Shabbat* afternoon and on Monday and Thursday mornings (ancient market days). The modality for *Torah* chant is generally "Major" (really the *HaShem Malach* mode)<sup>145</sup>. The *Torah* is chanted on the High Holy Days of *Rosh Hashanah* and *Yom Kippur* with a special Cantillation mode.

On *Shabbat*, *Torah* Festivals, the New Moon, Fast Days, and High Holy Days, a Prophetic Portion (*Haftarah*) is chanted following the *Torah* reading. The theme of this Prophetic passage usually echoes the theme of the *Torah* reading, and this may be a source for the Old Testament and corresponding New Testament passages read in many churches on Sundays. In the Eastern European Ashkenazi tradition, *Haftarah* is chanted in a Minor modality in most communities.

The Book of Esther is chanted from a handwritten parchment *M'gillah* scroll on Purim, and its modality is both Major and Minor. *Eichah* (Lamentations) is of course chanted in a mournful Minor modality, and *Shir HaShirim* (on *Pesach*), *Rut* (on *Shavuot*), and *Kohelet* (on *Sukkot*) are in the same lyrical chant which alternates between Minor and Major phrases. Since these three books are chanted on the *Shalosh Regalim* Festivals, they share the same modality of chant.

The purpose of reviewing how the underlying modality changes among the chant of these various Biblical books is two-fold. This illustrates how modal music of Biblical chants *identifies* a section of the Hebrew Bible, and the special occasion during which it is chanted. The musical mode underlying each type of chant also reflects the *mood* in each type of Biblical book, and the mood of the occasion on which it is chanted (in addition to punctuation and accentuation).

Some of these are more obvious, such as the "happy" Book of Esther versus the "mournful" Book of Lamentations. Other differences are more subtle, such as the "Major" narrative *Torah* versus the "Minor" Prophetic books. This is similar to what the modal musical motifs of *Nusach HaT'fillah* do for Jewish Liturgical Chant, as shown by the graphic symbols of *Simanei Nusach*.

#### **3.4.4 Main Disjunctives have hierarchical "pausal power" in Bible texts**

There are two types of Disjunctive or "Separator" Trope: those that end phrases or clauses (*Silluk*, *Etnachta*, *Segol*, *Zakeif Katon*, and *R'vi-a*), and those that end word-pairs and segments (*Tip'cha*, *T'vir*, *Pashta*, *Zarka*, *Azla*, *Gershayim*, *T'lishah G'dolah*, *Pazeir*, *Munach L'Garmeih*). Some Cantillation symbols have different names among scholars, such as Dr. Joshua Jacobson<sup>146</sup>.

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<sup>145</sup> Please see Appendix C-12, "Notated Music for *Torah* Trope".

<sup>146</sup> Jacobson, *Chanting the Hebrew Bible* (2002), pp. 397-399.

These Disjunctives are in a hierarchy, with four “Levels of Pausal Power”. *Silluk* functions at the *end* of a verse as a “period”, *Etnachta* functions near the *middle* of a verse as a “semi-colon”, *Zakeif Katon* is a type of “comma”, *Segol* is another level of “comma” or another “semi-colon”, and *R’vi-a* (also called *R’vi-i*) is yet another (weaker) level of “comma”<sup>147</sup>. All of the other Disjunctive Trope are "Separators", but they are not equivalent to punctuation marks.

Among the five “Main Disjunctive Trope” or “phrase / clause ending Trope”, there are *three levels* of “Pausal Power”. *Silluk* and *Etnachta* are Level 1 (strongest), *Segol* and *Zakeif Katon* are Level 2 (less strong), and *R’vi-a* is Level 3 (yet less strong). *Silluk* marks the end of a verse, like a "period". *Etnachta* shows the transition between two clauses, like a "semi-colon". *Segol*, *Zakeif Katon*, and *R’vi-a* are “commas” to show the ends of phrases, segments, and word-pairs.

*Simanei Nusach* have a similar function in the phrasing of liturgical texts. In Chapter 5, a correlation will be drawn between some of these Disjunctive Trope (*Silluk*, *Etnachta*, *Zakeif Katon*, and *R’vi-a* in particular) and the main "Disjunctive" *Simanim* (*Dark Square*, *Dark Circle*, *Two Lines*, and *Letter "X"* in particular). These show how *Simanei Nusach* for phrasing Jewish liturgy are related to the 1200-year-old *Ta'amei HaMikra* for phrasing the *TaNakh*.

### 3.4.5 Other Disjunctives show sub-segments and delineate word-pairs

Among the remaining Disjunctive Trope that are not “phrase enders”, several subdivide the “Main Disjunctive” Trope phrases into segments. Here too there is good correlation between the new graphic symbols of *Simanei Nusach* and these "Separator" Trope that define shorter phrases, text segments, and word-pairs<sup>148</sup>. One difference is that *Simanei Nusach* mark *entire phrases* of liturgical text, while *Ta'amei HaMikra* are on almost every word of the Bible text.

Thus *Tip’cha* is the Level 2 divider within *Silluk* and *Etnachta* phrases, *Zarka* is the Level 3 divider within *Segol* phrases, and *Pashta* is the Level 3 divider within *Zakeif Katon* phrases. All the other Disjunctive Trope are “Level 4” which has the least “Pausal Power”, and many of them serve as "sub-dividers within several of the Level 3 and Level 2 segments"<sup>149</sup>.

There are six common Conjunctives ("Joiners") and two rare ones, so several Conjunctive Trope appear with multiple Disjunctives. For example, *Munach* (backwards “L” under a word) is the Conjunctive with six different Disjunctives, and it has a different musical motif for each

<sup>147</sup> Please see Appendix C-13, "Disjunctive Trope Hierarchy".

<sup>148</sup> Please see Appendix C-15, "Trope Order and Four Steps".

<sup>149</sup> Please see Appendix C-14, "Disjunctive Phrases Levels".

type of Trope pairing. A “string” of several Conjunctive Trope can lead to a single Disjunctive. The “word-pairs”<sup>150</sup> are usually marked by the pairing of a Conjunctive and a Disjunctive Trope.

This more detailed discussion about the accent and *punctuation functions* of the Trope or *Ta’amei HaMikra* will be relevant to the discussion in Chapter 5 of *phrasing functions* in the new “*Simanei Nusach*” graphic symbols for Jewish liturgy. The next discussion in Section 3.5 about the *musical motifs* of Trope will also be directly relevant to the way in which the *musical motifs* of Jewish Liturgical Chant function within the *Nusach HaT’fillah* Prayer-modes.

### 3.5 Musical realization of accentuation and punctuation

*Ta’amei HaMikra* function as markers of Biblical accents, punctuation, and syntax, and the chant of their musical motifs reflects the text phrasing and word accents. For Conjunctives and many Disjunctive Trope, this happens through a “leading tone” at the end of the musical motif. This “leading tone” is a musical indication that another musical motif will follow immediately.

There is a strong connection between the shapes of the Trope symbols devised by the Masoretes and the ancient melodies of the Cantillation motifs. If one notates the music of a *Ashkenazic* (Eastern European) *Torah* Trope motifs, and then "connects the dots" of the note-heads on the staff lines, the result looks a lot like the shapes of many Cantillation symbols.

These melodic motifs primarily indicate which word syllables are accented, and where the phrase divisions fall in the texts. They also indicate which words the Masoretes wanted to emphasize, by choosing one possible Trope symbol rather than another of the same "pausal power" or Level. The Trope system is not entirely "mechanistic", but also somewhat artistic.

#### 3.5.1 Torah Chant is *Mixolydian & HaShem Malach Modes & Maqam Rast*

There is a comment in the Babylonian *Talmud*<sup>151</sup> that "*one must keep the right hand clean for ... signing the Torah chant.*" This meant that a person who knew the chant of the *Torah* would stand to the side of the person who was chanting from the scroll. The *Tomech* (helper) would move his right hand to indicate the shape of the melodic motifs for each word and phrase of the *Torah* reading. This is "Chironomy", and variations of this kinesthetic system are still used during the *Torah* chanting in some synagogue settings (mostly *Eidot HaMizrach*) today.

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<sup>150</sup> Categories of "word-pairs" are listed in Section 3.1.4 above.

<sup>151</sup> Babylonian Talmud, Tractate *B'rachot*, folio 62b.

The underlying musical mode of regular *Torah* chant in the Eastern European *Ashkenazic* tradition is similar to the medieval *Mixolydian* Mode, which is all the white keys on a keyboard from “G” to the “G” an octave higher (no accidentals – sharps or flats). In *Nusach HaT’fillah* (the Musical Prayer-modes) of Jewish Liturgical Chant, this musical mode is called *HaShem Malach*, and its “resting point” is the 5<sup>th</sup> scale degree, while its “lowered 7<sup>th</sup>” scale degree is different from the Major scale. This modal scale also underlies *Raga* called *Khamaj*, and *Maqam Rast* (in some of its forms). Some scholars identify other *Maqamat* as Torah chant<sup>152</sup>.

There are "special" *Torah*-chant motifs chanted throughout the religious year. These have some parallels in Jewish Liturgical Chant. Specific modal musical motifs are unique to certain times of year and to the modes of *Nusach* chanted during those times of year. When these are chanted by a knowledgeable Hazzan or prayer-leader for a congregation whose members are familiar with these motifs, it is clear what holy day or liturgical occasion occurs at that time.

### 3.5.2 Prophetic Chant is *Aeolian* & *Magein Avot* Modes & *Maqam Nahawand*

The modality of the Prophetic or *Haftarah* chant is specifically in the “Natural Minor” scale. The musical mode of regular *Haftarah* chant in the Eastern European *Ashkenazic* tradition is the medieval *Aeolian* Mode, which is all the white keys on a keyboard from “A” to the “A” an octave higher (no accidentals). In the *Nusach HaT’fillah* (Musical Prayer-modes) of liturgical chant, this musical mode is called *Magein Avot*, and its “resting point” is the 4<sup>th</sup> scale degree.

In Section 4.4.1, the *HaShem Malach* mode was identified as the musical mode underlying “*If I Were a Rich Man*” in *Fiddler on the Roof*. In “*Sabbath Prayer*” the protagonist Tevye and his wife Golda sing a duet blessing for their daughters. The music of this song is in the same “plagal” version of the *Magein Avot* mode that is used in *Haftarah* chant and sections of Jewish liturgy<sup>153</sup>. This modal scale also underlies *Raga Asavari* and *Maqam Nahawand* (most forms).

### 3.5.3 Other Biblical books are chanted in four different systems

The other four Tiberian systems for chanting various Biblical books can be described as alternating between Major and Minor in the chant of their main Trope phrases. This “Major” may be *Mixolydian* mode / *HaShem Malach* mode with its lowered 7<sup>th</sup> scale degree, and this “Minor” is the Natural Minor of the *Aeolian* Mode / *Magein Avot* mode. To present the chant

<sup>152</sup> Levine, Joseph. *Synagogue Song in America*. Crown Point, IN: White Cliffs Media, 1989; page 83 re *Siga*. With all due respect to a colleague and teacher, this author believes *Maqam Rast* to be a better match than *Siga*.

<sup>153</sup> The version of the *Magein Avot* mode chanted in the *Sh'ma* section of Friday evening is also plagal; cf. § 4.4.4

of these other books, it is useful to briefly introduce the concept of “tetrachords” as “building blocks” for the modes that underlie both Biblical and liturgical chant in Jewish sacred music<sup>154</sup>.

When one studies Arabic *Maqamat*, it is striking to see how clearly the musical structure of each *Maqam* depends upon the tetrachords from which it is built. A “tetrachord” is a series of four consecutive scale degrees, and two tetrachords make up an octave. For Arabic *Maqamat*, a given combination of tetrachords yields one particular *Maqam*, but changing just one of those tetrachords (usually the “upper” tetrachord) yields a different (and related) *Maqam*.

Using this concept of tetrachords, here is a summary of the Cantillation of these other books. A *Zakeif Katan* phrase is the “upper tetrachord”, and a *Silluk* segment is the “lower tetrachord”. Esther is Major for *Zakeif Katan* and Minor for *Silluk*; *Eichah* is Minor for both *Zakeif Katan* and *Silluk*; High Holy Days *Torah* is Minor for *Zakeif Katan* and Major for *Silluk*; and Ruth / *Kohelet* / *Shir HaShirim* is Minor for *Zakeif Katan* and Major for *Silluk*. These differences in chanted modalities identify the holy days on which these Biblical books are chanted, just as the differences in *Nusach HaT'fillah* modes and motifs identify sacred times for Jewish worship.

### 3.5.4 Musical motifs for Disjunctives lead to a modal “resting point”

The concepts of a “leading tone”<sup>155</sup> and a “resting point” have been briefly mentioned above in the discussion about the various musical modes that underlie Biblical (and liturgical) chant. These two aspects of the modes are found specifically in their musical motifs, and this also is a common feature of Biblical Cantillation and Jewish Liturgical Chant. In both musical systems, the leading tone at the end of a musical motif<sup>156</sup> indicates that the text continues forward.

The “resting point” for a chanted Trope motif is related to its “level of pausal power”<sup>157</sup>. A *Silluk* functions like a “period” in English, so its resting point is the Tonic (“Do” in *Solfeggio*). An Etnachta is the strongest main divider (functioning like a semi-colon), so its resting point is at the main resting point of the underlying musical mode for a particular type of Cantillation. A *Zakeif Katan*, Segol, R'vi-a, or T'vir usually end with a leading tone as their resting point, since each of these ends a subordinate phrase and the text continues forward. These considerations are also present in the modal musical motifs of *Nusach HaT'fillah*, and they function similarly.

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<sup>154</sup> These will be discussed in more detail in Section 4.4.3 below, in the context of *Nusach HaT'fillah*.

<sup>155</sup> Briefly mentioned at the beginning of Section 3.5 above.

<sup>156</sup> Please see Appendix C-12 for notated music of Torah Cantillation, according to Rosowsky and Binder.

<sup>157</sup> Discussed in Section 3.4.4 above for the Disjunctive Trope.

### 3.5.5 This thesis studies the Eastern European *Ashkenazic* tradition

Each of the musical modes can be thought of as a “skeleton” of sorts, and the motifs within them for chanting the Trope of various Biblical books can be thought of as the “muscles” that animate a particular skeleton in a specific way. This approach works for Biblical chant, where the motifs are the *Ta'amei HaMikra* or Trope. It will be shown in Chapters 4 and 5 that this approach also works for Jewish Liturgical Chant, using the motifs of *Nusach HaT'fillah*.

There is an underlying musical mode for each of the six Cantillation systems in a particular type of Jewish community, and at least two dozen individual Trope motifs<sup>158</sup> are based on that underlying musical mode. There half-a-dozen categories of musical modes underlying liturgical chant, with a dozen to two dozen musical motifs in each specific musical mode (and sub-mode) in each type of Jewish community<sup>159</sup> worldwide.

One difference between *Ta'amei HaMikra* and *Simanei Nusach* is that there is an individual musical motif for each Biblical word and its Trope symbol (*Ashkenazic* tradition), while each musical motif of Jewish Liturgical Chant extends over an entire phrase in a liturgical text. One similarity between these symbols of Biblical and liturgical chant is that for each graphic symbol, its shape, name, and phrasing function remain the same in every modality. The *change is the modal musical motif associated with that symbol* in each Trope system or each *Nusach* mode.

The specific type of Jewish community for which Biblical and liturgical chant is discussed in this thesis is the Eastern European *Ashkenazic* tradition as chanted in much of North America and some of Europe and Israel. There are also practitioners of this musical tradition<sup>160</sup> in South America, South Africa, and Israel, and it is ubiquitous among North American denominations.

In each type of Jewish community and its traditions of sacred music, there are six systems of Biblical chant for the *Torah*, *Haftarah*, *Esther*, *Eichah*, Festival *M'gillot*, and often (but not always) High Holy Days *Torah*. *Ashkenazic* musical systems tend to be more elaborate than the *Sefardic* and *Eidot HaMizrach* systems<sup>161</sup>, with separate musical motifs for each Trope symbol. There are fewer distinct motifs in other communities, and the musical range is more narrow.

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<sup>158</sup> 25 Trope in each of 6 types of Biblical books = a minimum of 150 Trope motifs per type of Jewish community.

<sup>159</sup> 15 Simanim in each of 12 modes and sub-modes in liturgical chant = a minimum of 180 motifs in 1 community.

<sup>160</sup> There are different traditions of Jewish sacred music among the Central European, Western *Sefardic*, Yemenite, and various *Eidot HaMizrach* or Eastern *Sefardic* traditions of North Africa and the Middle East. These Jewish communities once extended from Morocco eastward to Central Asia, and northward to the Caucasus Mountains.

<sup>161</sup> Among some *Eidot HaMizrach* communities there is a tradition to chant *Torah* with Trope motifs from various *Maqamat* for specific *Torah* Portions, a practice that is not found among *Ashkenazim*.



## Conclusion to Chapter 3

Chapter 3 set an important context for the study of all Jewish sacred chant – characteristics of the grammar in the sacred texts that are to be chanted. Without some sense of the structure and meaning in a Biblical or liturgical text, it is difficult to communicate the text through chant. The study of Hebrew grammar is pertinent to Biblical Cantillation and Jewish Liturgical Chant.

The first aspect of this "grammar context" for sacred chant was an introduction to aspects of Hebrew phonology, orthography, morphology, and syntax. Phonology and morphology can affect pronunciation, orthography can interfere with pronunciation, and syntax is related to the proper phrasing of the Hebrew texts. The second aspect of context in this background material was additional details about roots and affixes, Masoretic vowels, accentuation, punctuation, and some differences between Semitic and Indo-European syntax structure.

Discussions about the structure and development of the Hebrew Bible provided background for the work of the Tiberian Masoretes in the 800's C.E. These scholars developed a workable system of vowels that were added to the existing consonantal Bible text, and a system of Trope symbols showing punctuation, accentuation, and intonation (sacred chant).

Chapter 3 explored the Cantillation system of the Hebrew Bible to set the context for later discussions about the modal musical motifs of Jewish Liturgical Chant. The Hebrew Bible text sets the precedent for the parallelism found in many liturgical texts. Biblical Cantillation sets the precedent for the manner in which musical motifs within a mode show the punctuation and thus the meaning of sacred texts, an approach that is important for Jewish Liturgical Chant.

The Middle Eastern idea that different musical modes are appropriate for different occasions is first shown in Biblical Cantillation. Six different sets of music values are chanted for the same 27 Trope graphic symbols, depending on the type of Biblical book and on the specific "liturgical occasion" (such as a Festival) during which a given book is chanted.

Based on the underlying grammar and syntax of Classical Hebrew, the concepts behind the system of Biblical Cantillation have historically informed the sacred chant of Jewish liturgy. The concepts behind traditional Jewish prayer-chant have in turn informed the development of the new *Simanei Nusach* graphical symbols as visual indicators of phrasing and modal motifs.

## Chapter 4 – Structure of Jewish Liturgy and Prayer-modes

### 4.1 Weekly and yearly cycles of Jewish Liturgy

Chapter 3 presented a discussion about the effects of morphology on the syntax of Classical Hebrew, as it appears in Biblical texts and in Jewish liturgical texts. There was a discussion of the structure and development of the Hebrew Bible, and a presentation of the work done by the Tiberian Masoretes in the 800's C.E. on Hebrew vowel symbols and on the *Ta'amei HaMikra* (Trope symbols) for the accents, punctuation, and chant of various Biblical texts.

In Chapter 4, the structure and development of Jewish Liturgy will be explored briefly. Some related musical modes of other cultures will be introduced, and the *Nusach HaT'fillah* (Musical Prayer-modes) of Jewish sacred music will be presented and applied to the sections of liturgical texts. Chapter 5 will present the new graphic system of *Simanei Nusach* (Symbols of Prayer-chant), together with an analysis of their functions and their use in teaching software.

#### 4.1.1 Basic structure underlying Jewish worship-services

Virtually every Jewish worship service has a similar three-part structure, and every morning and evening service has a fourth part within that structure. There is a Preliminary Section, an *Amidah* (Standing Silent Meditation) that may be repeated aloud, and a Concluding Section. In every evening and morning service there is also a *Sh'ma uVirchoteha* (*Sh'ma* and its Blessings) section between the Preliminary Section and the *Amidah*.

In addition to daily worship services and weekly Sabbath services, there are four other categories of “holy days” or “liturgical occasions” in the religious year. These are the *Yamim Noraim* (Days of Awe), *Shalosh R'galim* (Three Pilgrimage Festivals), ancient “minor holy days”, and modern “minor holy days” (20<sup>th</sup> century). There are three worship services during the “sunset-to-sunset” day for each of these: *Arvit* (evening), *Shacharit* (morning, usually with a *Torah* Service and a *Musaf Amidah*, and often the *Hallel* Psalms), and *Minchah* (afternoon).

The starting point for any discussion about Jewish liturgy is to identify the times of day, week, month, and year when worship services occur. Each of these services has its own unique liturgical texts, and often its own special modal chants. The role of Jewish Liturgical Chant in identifying each of these sacred times will be discussed in Section 4.5 below.

#### 4.1.2 Daily cycle of three Jewish worship-services<sup>162</sup>

The first Creation story (Genesis 1:1 – 2:3) ends the creation of each day with a phrase, “There was evening and there was morning, the X day.” This is a “religious source” for the fact that the “Jewish day” begins at sunset and ends at the following sunset. The first service of the daily cycle is *Arvit* (also called *Ma’ariv*) every evening. The name *Arvit* is taken from the Hebrew word *Erev* for “evening”, and the alternate term *Ma’ariv* has the same three-letter root.

There is a “Creation – Revelation – Redemption” cycle reflected in the prayers that surround the *Sh’ma* itself in the “*Sh’ma* and its Blessings” section. After a responsive “Call to Worship” (*Bar’chu / Baruch Atah*) that opens the *Sh’ma* Section in *Arvit* and *Shacharit*, there is a Creation-theme prayer followed by a Revelation-theme prayer. The *Sh’ma* and its three paragraphs appear next, and then there is a Redemption-theme prayer in both *Arvit* and *Shacharit*. There is also an additional prayer in the evening service that asks for protection during the night.

Every *Amidah* begins with the same set of three paragraphs and ends with another set of the same three paragraphs (thematically if not literally), but the middle portion can be different. The Weekday *Amidah* begins with three prayers about the Patriarchs (and the Matriarchs in religiously liberal liturgy), God’s heroic deeds, and God’s Holiness. These are followed on Weekdays by thirteen short petitionary prayers for personal and communal well-being. These are then followed by three ending prayers, asking God to accept our worship, thanking God for doing so, and requesting peace. This Weekday *Amidah* structure of “3 - 13 - 3” prayers (19 in total) is modified on *Shabbat*, Festivals, and other holy days to a “3 - 1 - 3” structure of prayers.

The *Sh’ma* Section is included only in *Arvit* and *Shacharit*, but not in the *Minchah* Service. The *Sh’ma* verse and its three paragraphs are the central pivot of this section. The first verse (Deut. 6:4) is a one-sentence summation of Jewish theology: “*Hear, O Israel, the Lord is our God, the Lord is One!*” In first paragraph (Deut. 6:5-9) *V’ahavta* (And you shall love), verse 8 specifies that one should “teach these words when lying down (in the night) and arising (in the morning).” Biblical scholars understand this to be a *merism* that means “*Teach these words all the time!*” It also became a reason to include the *Sh’ma* in the *Arvit* and *Shacharit* services but not in *Minchah*, since this verse only refers to evening and morning<sup>163</sup>.

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<sup>162</sup> Please see Appendices D-3 and D-4 for the structure of the Weekday services.

<sup>163</sup> Please see Appendix B-15 for a fairly literal translation of Deuteronomy 6:4-9.

#### 4.1.3 *Shabbat* worship-services and their sections<sup>164</sup>

Just as the Weekday *Shacharit* is longer than the Weekday *Arvit* Service, on *Shabbat* all worship services are more elaborate and therefore longer. In traditional communities where the *Shabbat* is observed strictly, many Jewish people do not work, do not use money, do not drive, do not use electronic technology, etc. This leaves time for relaxation, reading, a “*Shabbat* nap”, leisurely special meals, and plenty of time for longer worship services.

*Shabbat* evening begins just before sunset Friday with several home rituals. Candles are lit and a blessing is said on the children. The *Kiddush* is chanted over wine to sanctify the Sabbath, and a blessing is said on a braided egg bread called *Challah*. In some synagogues, these “home rituals” of Friday evening are duplicated either before or after the Friday evening service.

Here is the structure of the Friday Evening Service. The Preliminary Section is called the *Kabbalat Shabbat* (Receiving the Sabbath), and it includes Psalms 95-99, a hymn (*L’cha Dodi*), and Psalms 92-93. The *Sh’ma* Section of *Arvit L’Shabbat* is similar to the Weekday *Arvit*. The Silent *Amidah* of *Shabbat* has a different structure from that of Weekday services. The thirteen Petitionary Prayers in the middle are replaced by a single prayer (with three or four paragraphs). The *Shabbat* Evening Service concludes with a brief review of this central *Amidah* prayer, the *Kiddush* (Holiness of the Sabbath) over wine or grape juice, and concluding prayers and hymns.

*Shabbat* morning begins with a longer Preliminary Service of blessings and Psalms. The main *Shacharit* Service has a longer version of the *Sh’ma* Section, and an *Amidah* that might be repeated aloud. The *Torah* scroll and the Prophetic *Haftarah* are chanted, and a *D’var Torah* (*Torah* Commentary or Exegesis) or sermon is given. An Additional *Musaf Amidah* (“3–1–3” structure) is chanted in traditional synagogues, because there was an extra sacrifice offered on *Shabbat* morning at the ancient Temple in Jerusalem. The *Musaf* service concludes with several hymns and other congregational melodies, and there is usually social time or lunch afterwards.

*Shabbat Minchah* opens with Psalm 145 and additional Biblical verses. There is a short *Torah* Reading, and the *Minchah Amidah* has the same “3–1–3” structure of the other *Shabbat Amidah* Sections. After sunset on Saturday evening, the Weekday *Arvit* Service has several additional Biblical verses. A *Havdalah* (Separation) ceremony with a braided candle, wine, and sweet spices marks the end of *Shabbat*, and this can be done in synagogues and homes.

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<sup>164</sup> Please see Appendix C-5 and C-6 for the structure of the *Shabbat* services.

#### 4.1.4 The High Holy Days or Days of Awe<sup>165</sup>

The *Yamim Noraim* (literally “Days of Awe”, the “High Holy Days” or “High Holidays”) occur each Autumn, in September or occasionally in early October. They are *Rosh HaShanah* (“Head of the Year”), the *Aseret Y’mei T’shuvah* (Ten Days of Repentance), and *Yom Kippur* (“Day of Atonement”, a 25-hour Fast Day). Except in the Reform Movement, *Rosh HaShanah* is observed for two days, including in the State of Israel. These are the most important liturgical changes that have a direct impact on how the traditional High Holy Days liturgy is chanted. One function of the *Nusach HaT’fillah* (Musical Prayer-modes) is to delineate each of these sections.

*Arvit* for *Rosh HaShanah* is distinguished by its musical mode and motifs, with few text changes. *Shacharit* includes *Piyyutim* (medieval religious poems) in the *Sh’ma* Section of the traditional liturgy, and in the *Shacharit Amidah* (“3-1-3” format) for all denominations. There is no *Hallel* Section (Psalms 113-118) on the High Holy Days. During the *Torah* Service, after the Prophetic Reading, the *Shofar* (a ram’s horn or an antelope horn) is sounded in a specific set of piercing blasts. All the denominations except Reform include a *Musaf* Additional Service, which has *three* central prayers (thus a “3 – 3 – 3” structure, rather than the “3-1-3” *Amidah* on other holy days) built around Biblical verses about God’s Sovereignty, Remembrance, and *Shofar* verses. *Rosh HaShanah Minchah* has fewer text changes than the *Musaf* Service, and the relatively short *Minchah Amidah* is similar to that of the *Shacharit Amidah*.

*Yom Kippur* Evening begins the 25-hour fast with the *Kol Nidrei* (All Vows), and there is a long section of *S’lichot* (Penitential prayers) that is repeated throughout the ensuing worship services until the following sunset. *Shacharit* includes *Piyyutim* as on *Rosh HaShanah*, and the *S’lichot* section is added to the *Shacharit Amidah*. The *Torah* Service includes *Yizkor* (Memorial prayers of remembering the departed), and the traditional *Musaf* Additional Service (“3-1-3” structure) includes *S’lichot* prayers and the *Avodah* section retelling the ancient Temple worship.

The *Yom Kippur Minchah* Service includes a *Torah* Portion, and the *Haftarah* (Prophetic Portion) is the entire Book of Jonah. The *N’ilah* (Concluding Service) is unique to *Yom Kippur*; it has a special set of musical motifs, and its *Amidah* changes the Hebrew text from “May we be *inscribed* in the Book of Life” to “May we be *sealed* in the Book of Life.” *Yom Kippur* ends with a Weekday evening service, followed by *Havdalah* and one last sounding of the *Shofar*.

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<sup>165</sup> See Appendices C-7 through C-9 for *Rosh HaShanah* services, and C-10 through C-12 for *Yom Kippur*.

#### 4.1.5 The Three Pilgrimage Festivals

The *Shalosh R'galim* (Three Pilgrimage Festivals) are mentioned several times in the *Torah*, in every book except Genesis<sup>166</sup>. These Biblical sources use various names for the Pilgrimage Festivals, perhaps reflecting different streams of Oral Tradition that were later redacted into the *Torah* text. All three Pilgrimage Festivals (*Pesach* in Spring, *Shavuot* in early Summer, and *Sukkot* in Autumn) have agricultural aspects related to the ancient cycle of harvests in the Land of Israel. They also have historical aspects related to the religious events of the Exodus from Egypt, the Mt. Sinai encounter with God, and the 40 years of wandering in the Sinai Wilderness.

The structure of *Shalosh R'galim* worship services is similar to the traditional *Shabbat* liturgy. *Hallel* (Psalms 113-118) is added between the *Shacharit Amidah* and the *Torah Service*, and the *Musaf Amidah* mentions the additional sacrifices for each of these Festivals. There are several days of *Chol HaMoed* (Intermediate Festival Days) during the weeklong Festivals of *Pesach* and *Sukkot*, and these usually include a *Shabbat Chol HaMoed* that contains elements of the Festival liturgy and its unique modal chants. *Yizkor* Memorial prayers are included during the final day of *Pesach*, the second day of *Shavuot*, and on *Sh'mini Atzeret*.

On the Festival of *Sh'mini Atzeret* (Eighth Day of Assembly) near the end of *Sukkot*, there is a special elaborate melody for prayers asking God for rain to fall in Israel during the coming Winter months. The final Festival in the week of *Sukkot* is *Simchat Torah* (Joy of the *Torah*), added to the religious calendar during the Middle Ages. The chanting of Deuteronomy in the *Torah* scroll is concluded and the Book of Genesis is begun on the same day, thereby renewing the yearly *Torah*-reading cycle.

#### 4.1.6 The Minor Holy Days – Ancient and Modern

Among the “ancient minor holy days”, one is mentioned in the *Torah* along with *Shabbat* and the “major holy days” (High Holy Days and Pilgrimage Festivals). This is *Rosh Chodesh*, literally “Head of the Month” but translated as “New Month” or “New Moon” semi-festival. During the *Torah Service* on the *Shabbat* preceding *Rosh Chodesh*, a special prayer is added announcing the Hebrew name of the coming month and the day of the week on which it will arrive. It is a “musical custom” to chant part of this public announcement with a “signature melody” from whatever holy day is to be celebrated in the coming month.

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<sup>166</sup> Exodus 23, Leviticus 23, Numbers 28-29, and Deuteronomy 16.

Like the *Shalosh R'galim* Festival (but unlike the *Yamim Nora-im* Days of Awe), *Rosh Chodesh* liturgy adds a slightly shorter version of the *Hallel* Psalms. There is one additional paragraph in the *Shacharit Amidah*, and there is a longer “middle prayer” in the *Musaf Amidah* (different on Weekday *Rosh Chodesh* and *Shabbat Rosh Chodesh*). There are special Festival musical modes and motifs chanted on the *Shalosh R'galim*, and some Cantors also chant these same modes and motifs on *Rosh Chodesh*, especially during the *Musaf Amidah*.

The other “minor holy days” are not mentioned in the *Torah*. *Chanukkah* is the “Festival of Lights” or the “Festival of Religious Freedom”, and the name literally means “Rededication” of the ancient Temple in Jerusalem (in approximately 165 B.C.E.) after the desecrations of the Syrian-Greek invading army. The liturgical additions for *Chanukkah* are one extra paragraph in the *Amidah*, and the *Hallel* Psalms chanted during the *Shacharit* Service after the *Amidah*.

*Purim* has one liturgical change – an additional paragraph in the Weekday *Amidah*<sup>167</sup> – and *Hallel* Psalms are *not* added in the *Shacharit* service during *Purim*. *Tisha B'Av* is the only 25-hour Jewish Fast Day other than *Yom Kippur*. It commemorates the destruction of the First Temple in 586 B.C.E. by the Babylonians, the destruction of the Second Temple in 70 C.E. by the Romans, and other terrible events in the history of the Jewish People.

In the 20<sup>th</sup> century, new “minor holy days” have been added to the religious year, but many Orthodox Jews have not yet accepted some of these. The relatively new “minor holy day” that is most widely accepted is *Yom HaShoah* (Holocaust Remembrance Day); its full name in Israel is “Day of Commemorating the Holocaust and the Resistance”. Thus far there have been few changes<sup>168</sup> to the traditional liturgy that have gained common usage, but there are Holocaust Memorial Services in many communities.

The other 20<sup>th</sup> century occasion that is widely observed (but not among some Orthodox and Chassidic Jews) is *Yom HaAtzma-ut* (Israel’s Independence Day) celebrated on the 5<sup>th</sup> of *Iyyar*, which was May 14<sup>th</sup> in 1948 when Israel became an independent nation. Conservative and Reform prayerbooks have added a new prayer to the Weekday and *Shabbat Amidah* with the *Chanukkah* and *Purim* additions, and there is a custom to chant *Hallel* Psalms on this occasion. There is a *Yom Yerushalayim* (Jerusalem Day), but it is not widely observed outside Israel.

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<sup>167</sup> Unlike *Chanukkah*, *Purim* cannot fall on *Shabbat*.

<sup>168</sup> *Siddur Mishkan Tefilah* of the Reform Movement has a prayer on page 555 to insert into the *Amidah*.

## 4.2 Development of Jewish Liturgy and the prayerbook

Jewish liturgy existed long before there were written or printed prayerbooks. The *Mishnah* (Palestine, 200 B.C.E. – 200 C.E.) and the *Talmud* (Babylonia, 200's – 500's C.E.) both give information about the worship that accompanied the animal sacrifices at the ancient Temples in Jerusalem. When those Temples were destroyed, chanted worship in synagogues<sup>169</sup> replaced the animal and cereal sacrifices, and Jewish liturgy continued to develop in the ensuing centuries.

Biblical Cantillation modes and motifs were discussed in Chapter 3 above in the context of the structure and development of the Hebrew Bible. Similarly, the presentation of the structure and development of Jewish liturgy in this chapter forms the context for discussing the musical modes and motifs of Jewish Liturgical Chant in Sections 4.4 and 4.5. That in turn will provide the background for discussing the new *Simanei Nusach* graphic symbols in Chapter 5 below.

### 4.2.1 Biblical period - Israelite religion or Biblical Judaism

There is some controversy among scholars and Jewish religious leaders about the proper term for the religious practices of the ancient Israelites. Is the suitable term “Israelite cultic religion”, or “Biblical Judaism”? In the opinion of many religious leaders who see a connection between both the *practices* and the *religious values* of the ancient Israelites, the term “Biblical Judaism” (at least from the Babylonian Exile<sup>170</sup> onwards) is preferred.

The *TaNaKh*, *Mishnah* and *Talmud* tell of animal and cereal sacrifices that were offered at the portable Tabernacle and later at the Temple(s) in Jerusalem. There were separate roles<sup>171</sup> for two categories of Jewish Priests: *Kohanim* (descendants of Aharon) and *L'vi-yim* (Levites, descendants of the Tribe of Levi). As an ancient way to involve lay leaders from towns outside of Jerusalem, groups of “*Ma'amador*” (community helpers)<sup>172</sup> went to Jerusalem and participated in the Temple sacrificial rituals, while their home community gathered for religious rituals.

According to Psalm 150 and other sources, some of the instruments used in Temple worship included harps and lyres, drums and cymbals, silver trumpets and the *Shofar* (ram's horn), and small wind instruments. After the destruction of the Second Temple by the Romans in 70 C.E.,

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<sup>169</sup> Millgram, Abraham. *Jewish Worship*. Philadelphia: Jewish Publication Society, 1971. Part 1, Chapter 3.

<sup>170</sup> In 586 B.C.E., when the ancient First Temple in Jerusalem was destroyed by the Babylonians.

<sup>171</sup> A significant role of the Levitical priests was chanting the Temple liturgy. According to Rabbinic writings, most of their chants seem to have been Biblical texts and Psalms. Some Psalms that were chanted on specific occasions in the ancient Temple are chanted in synagogues on those same occasions today, such as Psalm 92.

<sup>172</sup> Levine, Lee. *The Ancient Synagogue*. (2nd Ed.). New Haven: Yale University Press, 2005; pages 38-39.



it was not until the 19<sup>th</sup> century in Germany that religiously liberal Jewish communities began to once again use musical instruments during worship (the organ). Since the late 20th century, some liberal synagogues also use piano, guitar, instrumental ensembles, and folk-rock bands.

#### 4.2.2 Rabbinic Judaism and the Jewish Diaspora experience

There is scholarly debate about whether the institution now known as the “synagogue” was developed by the Babylonian Jewish community during the Babylonian Exile, or whether it is a later development. There is also debate<sup>173</sup> about the extent to which there were synagogues in Judea during the time of the Second Temple. In the Diaspora, such religious functions as *Torah* reading and the developing liturgy were more prominent. By the time the Second Temple was destroyed, the institution of the synagogue was established in Judea, and also in the Diaspora.

There is also scholarly dispute about the time, place, and manner of development for the post-Temple Jewish liturgy. Rabban Gamliel II is given credit<sup>174</sup> by many sources for codifying the basic structure of the liturgy<sup>175</sup> in the First Century C.E. Within this general framework of Jewish Liturgy, only the *Chatimah* (ending formula or Seal) was originally specified, and this "summarizing phrase" identifies the theme of each prayer. This is part of the *Keva* (obligatory) prayers, as opposed to the *R'shut* (optional) prayers such as *Piyyutim* that were added later.

The *Hazzan* (Prayer-Leader) apparently had the freedom to improvise liturgical text within the theme of a particular prayer, as long as this fit into the rubric that was specified by the early Rabbis. Gradually favorite texts coalesced for each prayer, and this became the accepted Oral Tradition of Jewish liturgy during centuries of oral transmission throughout the Middle East, North Africa, and Europe. The first written prayerbook was a long reply to a question.

The Jewish scholarly academies in Babylonia maintained consistency of practice during the first millennium C.E. through a system of *Sh'eilot* and *T'shuvot* (Questions and Responses) that is called the *Responsa* literature. In the late 860's C.E., the Jewish community of Barcelona sent a question to the Sura Academy in Babylonia, asking about the contents of the prayers.

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<sup>173</sup> Levine, *The Ancient Synagogue* (2005). *ibid*, Chapters 2 & 3.

<sup>174</sup> Elbogen, Ismar (1913). *Jewish Liturgy*. transl. by Raymond Scheindlin; Hebrew Ed. Joseph Heinemann, 1972. Philadelphia: Jewish Publication Society & JTS, 1993; pages 200-202.

<sup>175</sup> *Mishnah B'rachot* 1.4 and its commentary in the Babylonian *Talmud B'rachot* 11b outline the structure of the *Sh'ma u'Virchoteha* Section. *Mishnah B'rachot* 4.3 mentions 18 blessings in the Weekday *Amidah*, while the Babylonian *Talmud* Tractate *B'rachot* (28b - 29a) expands this to 19 blessings on Weekdays. This same source also mentions seven blessings in the *Shabbat Amidah* and nine blessings in the *Rosh HaShanah Musaf Amidah*.

This was answered by Rav Amram Gaon, and his *Responsum* was the first written list of prayers, essentially a prayerbook<sup>176</sup>. A similar prayerbook was prepared decades later by Rav Saadia Gaon for another Jewish community, and these two documents became the basis for subsequent printed *Siddurim* (plural of *Siddur* or “Order”, for Weekday and Sabbath).

Another type of prayerbook is called a *Machzor* (“Cycle”, plural *Machzorim*). There were originally *Machzorim* for all Festival liturgies, but now this term usually used for the High Holy Days prayerbook<sup>177</sup>. There are many *Piyyutim* (religious poems, often in the form of alphabetic acrostics) that were added to the High Holy Days liturgy (and to parts of the Festival liturgies) during the Medieval Period, primarily in Palestine and Europe.

#### **4.2.3 Liturgical changes in prayerbooks of modern Jewish denominations**

In addition to *Piyyutim* that were added to the liturgy during the Middle Ages, especially for the High Holy Days liturgy, there were also “set melodies” that collectively are called “*MiSinai* Tunes” from the same time-period in Germany. Many of these 1000-year-old melodies are in a Major modality, although the *Yom Kippur Kol Nidre* melody is in a modal form of Minor. Many of these are congregational melodies, but most of them are not “metric” or “rhythmic” in style.

The Middle Ages brought persecution and expulsions from Western and Central Europe to Eastern Europe. However, in the 18<sup>th</sup> century European Jews began to experience some social and intellectual acceptance from the *Haskalah* (Jewish Emancipation and Enlightenment). The response of some Jewish communities was to modernize and liberalize traditional Jewish liturgy, initially in the German Reform Movement.

Prayerbooks were printed with translations, mixed choirs and sermons in the vernacular were added to the worship services, and “objectionable” texts were removed from the *Siddur*. These included references to the ancient sacrifices, Chosen People, Return to Zion, and most of the *Piyyutim* that had been added to High Holy Days and Festival liturgies over the centuries.

In North America during the 19<sup>th</sup> and 20<sup>th</sup> centuries, this process continued in the Reform Movement. The Conservative and Reconstructionist Movements have had differing responses to the process of modernizing their liturgies. Also, there have been interesting developments in this ongoing modernization process since the establishment of the modern State of Israel.

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<sup>176</sup> Millgram, *Jewish Worship* (1971), *op cit.*; pages 384-388.

<sup>177</sup> Please see Appendix D-1, “Development of Jewish Liturgy”, for a summary of this Section 4.2 discussion.

Reform Judaism now refers to Israel in its liturgies, and the Conservative Movement has always done so. Ancient sacrifices are not mentioned in Reform prayerbooks, and they are mentioned in the past tense in most Conservative *Siddurim* and *Machzorim*. A recent tendency in most Jewish denominations is a move towards more traditional liturgy. For example, the new Conservative High Holy Days *Machzor* has reinstated several traditional prayers and *Piyyutim*<sup>178</sup>.

Except for the Orthodox and Chassidic groups, the most striking change in the liturgical texts of the religiously liberal movements has been an effort to translate the masculine-oriented Hebrew texts into gender-neutral English. This is also affecting the text of the original Hebrew, both through additions of “the Matriarchs” into the *Amidah* of several modern prayerbooks, and the occasional changing of certain Hebrew words entirely to create an egalitarian text.

#### **4.2.4 Implications of tradition and change for teaching software**

It is interesting to see prayers being added back into the liturgy, while simultaneously there are efforts to meet the needs of 21<sup>st</sup> century congregants who want egalitarian language. This has had a direct effect on the teaching software in which the *Simanei Nusach* graphic symbols are being used. Details of this software will be discussed in Chapter 5, but this is an appropriate place to address the specific issue of traditional liturgy with egalitarian language.

In each category of prayers, musical settings have been notated for the Orthodox, Chassidic, Conservative, and Reform *Siddurim* (Prayerbooks). The starting point is a traditional Orthodox set of Hebrew texts, and the matching traditional English translations. Using MCW (Michigan-Claremont-Westminster) Hebrew coding, this author changes the given Orthodox Hebrew text as needed to match the prayerbooks used in each of the other denominations.

For many prayers, the nexus of “tradition and change” plays out as follows. There can be four slightly different Hebrew texts for the same prayer as it appears in the prayerbooks of each denomination. However, there will usually be only two versions of the English translation; one shared by Orthodox and Chassidic, and the other by Conservative and Reform prayerbooks. Or, the Hebrew text of the Conservative and Orthodox prayerbooks might match, while the English translations of the Conservative and Reform prayerbooks are similar. Clearly, there are several approaches among the denominations to issues of liturgical texts in Hebrew and in English.

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<sup>178</sup> Feld, Edward, ed. *Mahzor Lev Shalem*. New York: Rabbinical Assembly, 2010

### 4.3 Modal Music in some ancient religions and cultures

There are several similarities in how the musical modes of Arabic *Maqamat* and Hindustani *Ragas* function relative to how the modes of *Nusach HaT'fillah* function in Jewish liturgy. This comparison can be extended to modal music of the Roma (Gypsies), Persian *Dastgah*, Turkish *Mugam*, Byzantine Tones, and the medieval Church Modes. This is background material for the structure of musical modes and motifs of *Nusach HaT'fillah* in Sections 4.4 and 4.5 below.

There are many characteristics of Jewish sacred music that have more in common with its Middle Eastern origins than with the music of the European cultures in which Jews lived for the last two millennia. This was explored above in Chapter 1.3 and will also be discussed below. The "Eastern" modal characteristics of Jewish sacred music determine the modal musical motifs of *Nusach HaT'fillah*. These in turn gave rise to the *Simanei Nusach* system of graphic symbols.

#### 4.3.1 Similarities exist among the musics of disparate Eurasian cultures

An examination of the *Ragas* found in Northern India and the *Maqamat* found in Arabic music shows that there are similarities among them: single-line vocal chant, tetrachords, use of microtones, mostly oral transmission of texts and melodies, and a relationship between time of day and a given chant. This discussion begins with "microtones" as an element of modal music.

One way to think of *microtones* is that they are "in the cracks between the keys" of a piano keyboard, and therefore they are smaller (or larger) than a "half step" or semi-tone. The most common microtones among many cultures are a "quarter-flat" interval and a "quarter-sharp" interval, with the "quarter-flat" predominating. The music symbol for a normal "flat note" is "♭", and for a "quarter-flat" symbol there is a slanted slash in the vertical stem. The music symbol for a normal "sharp note" is "♯" with two vertical strokes, and for the most common "quarter-sharp" symbol there is only one vertical stroke through the two horizontal strokes.

In Western music, there is only *one* possible note between "C♯" and "D♯" on a piano keyboard, and that is called either "C♯" or "D♭" (depending on the "key signature" for its scale). However, with the quarter-tones, there are *three* possible notes between C♯ and D♯ : C♯, "C quarter-sharp", C♯ or D♭, "D quarter-flat", D♯.

The *Ragas* of Northern India use fewer microtones than the *Maqamat* of Arabic music, and the *Nusach HaT'fillah* modes of Jewish Liturgical Chant use even fewer microtones. The main Jewish communities whose sacred music contains microtones are those who lived among Arab or Muslim communities in Yemen, North Africa (Morocco, Tunisia, Egypt), the Levant (Syria, Lebanon), Asia Minor / S.E. Europe (Turkey, the Balkans), Mesopotamia (Iraq, Kurdistan), Persia (Iran, Afghanistan), the Caucasus Mountains, and Central Asia (especially Uzbekistan). Most of the surviving members of these ancient Jewish communities now live in Israel, where their *Eidot HaMizrach* music is enriching the unique sound of modern Israeli music.

#### 4.3.2 Relationships of *Maqamat* & *Ragas* to Byzantine & Jewish music

Reference was made above to the medieval modes *Mixolydian* (*HaShem Malach* mode) and *Aeolian* (*Magein Avot* mode), both of which underlie the musical motifs of Biblical chants. This section will present the full set of medieval modes. They provide one way of comparing and understanding the modal music of the other cultures being discussed here. Please note: these scales are only for the sake of “a familiar context”. The modal music of Arabic, Hindu, and Jewish music is *not* based just on scales, but rather on the *musical motifs* that define each mode. For these modes, their **underlying scales are derived from** their **musical motifs**.

The scale pattern for each medieval mode<sup>179</sup> is “all the white keys from x to y” on a piano keyboard. Here are the scales and their names in those terms: “C” to “C” is *Ionian*, “D” to “D” is *Dorian*, “E” to “E” is *Phrygian*, “G” to “G” is *Mixolydian*, and “A” to “A” is *Aeolian*. In the *Nusach HaT'fillah* of Jewish sacred music, two of these medieval modes have a *raised interval*, and three modes have the same scale format as the medieval modes with which they are related.

Details will be presented below showing how these medieval modes are slightly changed when they are compared to the Musical Prayer-modes of *Nusach HaT'fillah*. “Tetrachords” are the “building blocks” which combine to form the scales that underlie musical modes. These “building blocks” are *defined by the intervals* found in the musical motifs of each mode. Two tetrachords of four notes each are “stacked” consecutively to make up the *octave* of a modal scale. The lower tetrachord defines which “family” of musical modes is used for a given text.

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<sup>179</sup> Here are the scale intervals for these musical modes. The *Ionian* mode is the same as the Western Major scale (“1 – 1 – .5 – 1 – 1 – 1 – .5”), the *Dorian* mode is like Minor but with a raised 6<sup>th</sup> (“1 – .5 – 1 – 1 – 1 – .5 – 1”), the *Phrygian* mode has a lowered 2<sup>nd</sup> (“.5 – 1 – 1 – 1 – .5 – 1 – 1”), the *Mixolydian* mode is like Major with a lowered 7<sup>th</sup> (“1 – 1 – .5 – 1 – 1 – .5 – 1”), and *Aeolian* mode is the “natural Minor” scale (“1 – .5 – 1 – 1 – .5 – 1 – 1”).

One of the musical modes of Jewish sacred chant, called *Ahavah Rabbah*, is closely related to an Arabic *Maqam* called *Hijaz*<sup>180</sup>. *Maqam Hijaz* is a “modified *Phrygian* mode” because the “raised 3<sup>rd</sup> scale degree” is *not* part of the medieval *Phrygian* mode. The “lower tetrachord” of *Maqam Hijaz* has four notes whose scale degrees are “*Do*” or “1”, lowered “*Re*” or “2”, raised “*Mi*” or “3”, and “*Fa*” or “4”. There is a haunting or yearning ambience in this progression.

These translate into “scale intervals” for this tetrachord of “.5 – 1.5 – .5”, which is a striking modification of the first tetrachord in medieval *Phrygian* (“.5 – 1 – 1”). Combining the lowered 2<sup>nd</sup> scale degree of *Phrygian* with a “raised 3<sup>rd</sup> scale degree” gives the unique “step-and-a-half” interval that is characteristic of *Maqam Hejaz* in Arabic music, *Raga Bhairav* in the music of Northern India, and the *Ahavah Rabbah* mode in Jewish Liturgical Chant.

This “step-and-a-half” interval, influenced by Arabic *Maqam Hijaz*, is important in Jewish Liturgical Chant for several reasons. The *Ahavah Rabbah* mode in which this interval appears has two forms - for Weekday and *Shabbat* prayers. This interval is used in the *S’lichah* mode (or “Ukrainian Dorian” variant) on the High Holy Days, between the 3<sup>rd</sup> and 4<sup>th</sup> scale degrees. It is in the “lower tetrachord” of the “plagal” *Magein Avot* mode in the Friday evening service.

#### 4.3.3 Historical influences on interactions of Eurasian cultures and religions

There were significant trade interactions among the ancient inhabitants of Eurasia since the earliest times<sup>181</sup>, before recorded history. Archeologists have found evidence of trade relations among far-flung groups that may go back thousands of years. Trade routes extended from the Far East, through the Middle East, and to Europe<sup>182</sup> long before the establishment of nations and empires that later struggled for control of the overland and sea-borne trade routes.

Another factor in the interaction among groups of people was the migration of populations from Central Asia into Europe<sup>183</sup> and other areas of Eurasia, and other major migrations that took place in Eurasia during many millennia. Theories about the spread of Proto-Indo-European and Semitic languages<sup>184</sup> indicate some possible geographic aspects of these migrations, and modern tools of DNA analysis are also being used to track the movements of large populations.

<sup>180</sup> *Hijaz* is the name of a large area in western Saudi Arabia along the Red Sea that contains Mecca and Medina.

<sup>181</sup> Renfrew, Colin, ed. *Past Worlds: Atlas of Archeology*. London: Time Books / HarperCollins, 1997.

<sup>182</sup> O'Brien, Patrick, ed. *Oxford Atlas of World History*. London: Oxford University Press / Philip's, 2007.

<sup>183</sup> O'Brien, Oxford Atlas (2007) *ibid.*, pages 52-53

<sup>184</sup> Comrie, Matthews, & Polinsky. *The Atlas of Languages: Origin and Development ...* New York: Quarto, 1996

A third historical influence on the spread of cultures and religions throughout Eurasia is the history of invasions and conquest<sup>185</sup> among nations and empires. Geographic “pivot-areas” or “gateways” such as Persia, Egypt, and the Balkans<sup>186</sup> may have had a strong influence on India, the Middle East, and much of Europe, controlling the movements of populations and armies.

The spreading of Christianity and Islam during the 1<sup>st</sup> millennium C.E. also was a vehicle for cultural interactions. Jewish communities conducted trade the length of Eurasia<sup>187</sup>, and the Roma (Gypsies) were in constant movement through Asia and Europe. This mobility may have also fostered the influence of musical styles and modes among disparate populations.

Some or perhaps all of these pre-historic and historic influences may be involved with the phenomenon that modal music of disparate cultures seems to share many of the same musical characteristics. Where instruments are used, each cultural group seems to have examples of stringed, wind, and percussion instruments. Vocal music in most of the groups researched for this thesis seems to share characteristics of single-line, time-bound presentation, with some groups using microtones more than other groups. Oral tradition is a vehicle of transmission for both texts and music, since few cultural groups developed methods of written music notation.

#### **4.3.4 Musical modes of *Maqam*, *Raga*, and *Nusach* reflect time and mood**

Three important functions<sup>188</sup> for *Nusach HaT’fillah* are to identify the “liturgical occasion” in terms of time of year, time of month, time of week, and time of day; to identify the sections of liturgy being chanted within each type of worship service; and to use the phrasing of modal musical motifs to help express the meaning of Hebrew texts as they are used in Jewish liturgy. There are similar characteristics in the modal music of many other Eurasian cultures.

Perhaps as a “summation” or “result” of these three functions, the musical motifs of *Nusach HaT’fillah* have another less-known affect on Jewish worship. They reflect the “mood” of the worship experience in the context of its time-bound nature. While will be discussed in greater detail below, it is mentioned here in the context of the modal music in other cultural traditions. Music as an indicator (or agent) of “mood” is a powerful cultural and religious phenomenon. The flow of traditional chant and a bouncy congregational melody affect people differently!

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<sup>185</sup> Masselos, Jim. *The Great Empires of Asia*. Berkeley: University of California Press, 2010

<sup>186</sup> Haywood, John. *The New Atlas of World History*. Princeton, NJ: Princeton University Press, 2011

<sup>187</sup> Such as Radinites, Jewish traders who brought goods from Japan and China to Europe during the Middle Ages.

<sup>188</sup> Please see Appendix D-2, “Why Chant Prayers?”

Religious and cultural modal music of Northern India (*Ragas*), the Middle East (*Maqamat*), and Europe (Church Tones) are all related to specific times of day for the chanting of specific musical modes<sup>189</sup>, as are the modes of *Nusach HaT'fillah* in Jewish Liturgical Chant. Some of these cultures also have *colors* associated with specific times of day and musical modes, but this does not seem prevalent in Jewish and Christian sacred modal music.

However, there are specific *colored vestments* that are worn by some priests and ministers during certain “liturgical seasons” of a religious-year cycle. Perhaps color associated with time and sacred music is present in some types of Christianity. In traditional Judaism, it is customary to wear the color *white* on *Yom Kippur* (Day of Atonement), a period of asking for forgiveness.

#### 4.3.5 Examples of similar musical modes among various Eurasian cultures

Two musical modes are ubiquitous across the length of Eurasia from Northern India through the Middle East and across Europe. These are the *Mixolydian* mode (like a Major scale with a lowered 7<sup>th</sup>) and the *Aeolian* mode (the natural Minor scale). In any given cultural and religious tradition, specific musical motifs within these modes will differ. In the *Nusach HaT'fillah* of Jewish sacred music, there are sub-modes within the *Magein Avot* mode (like *Aeolian* mode).

These two musical modes are chanted in synagogues every *Shabbat* for the *Torah* Reading and the *Haftarah* or Prophetic Reading. These were discussed in some detail above<sup>190</sup>, in the context of Biblical Cantillation. In light of the previous paragraph above, it may bear some speculation about this connection with the modal music of other cultures and religions. Perhaps there are undiscovered reasons for many cultures sharing some of the same musical modes.

To conclude Section 4.3, here are some modes in various cultures whose underlying modal scales are similar to the *Mixolydian* and *Aeolian* modal scales.

*Mixolydian*: Northern India (*Raga Khamaj*), Persia (*Dastgah Homayun*), Arabia (*Maqam Rast*), Turkey (*Mugam Rast*), the Tones and Plainchant of Orthodox, Ukrainian Catholic, and Roman Catholic sacred music, and the *HaShem Malach* mode chanted in *Nusach HaT'fillah*.

*Aeolian*: Northern India (*Raga Asavari*), Persia (*Dastgah Dashti*), Arabia (*Maqam Nahawand*), Turkey (*Mugam Bayati*), somewhat in the Tones of Orthodox and Catholic sacred music, and the *Magein Avot* mode (with its several sub-modes) chanted in *Nusach HaT'fillah*.

<sup>189</sup> Swarup, Rai Bahadur. *Theory of Indian Music*. New Delhi: Asian Pub. Services, 1932 / 1997; Chapter 15.

<sup>190</sup> Discussed in sections 3.5.1 and 3.5.2 above.



## 4.4 Musical structures of several Jewish Prayer-modes

In this Section of Chapter 4, previous discussions about modal music – scales and motifs – will be applied to the specific musical modes of *Nusach HaT'fillah*<sup>191</sup>. There are references to the above examination of the similarities among the musical modes that appear in several Eurasian cultures, and there will also be occasional references to the discussions in Chapter 3 about how musical modes underlie the musical motifs of Biblical Cantillation.

In Section 4.5, this discussion about the musical modes and motifs in *Nusach HaT'fillah* will be applied to sections of Jewish worship services. That presentation refers to Section 4.1 above, where the *structure* of Jewish liturgy was discussed in the context of various liturgical occasions. This is all background to how the *Simanei Nusach* graphic symbols function within these modes and modal musical motifs of *Nusach HaT'fillah* in Jewish Liturgical Chant.

### 4.4.1 *Nusach HaT'fillah* is built on modal scales and musical motifs

Unlike scales in Western music, the intervals among the notes shown on a scale in *modal* music are often different *above* the octave and *below* the octave. An example in Jewish sacred music is the mode known as *HaShem Malach*. It is used for the Psalms of *Kabbalat Shabbat* on Friday evenings, and it is famous as the mode underlying Tevye's song "*If I Were a Rich Man*" in *Fiddler on the Roof*. The second line of *vocables* rises and returns to rest on the 5th ("*Sol*").

Presented as a scale in the "key of G", the basic octave of this mode looks identical to the medieval *Mixolydian* mode, which is shown as all the "white keys" on a piano keyboard from "G" to "G" (G - A - B - C - D - E - F - G). Notice the "F natural" in the *Mixolydian* mode, rather than the "F sharp" one would expect in a Western "G Major" scale. The *HaShem Malach* mode tends to rest on the 5th scale degree, or "*Sol*" in *solfeggio*. This aspect of the *HaShem Malach* mode appears in some pausal motifs when this mode is chanted on Friday evenings.

However, *above* the octave (the high "G"), the Jewish *HaShem Malach* mode has the notes "G - A - **B flat**" rather than the "G - A - **B natural**" that is *within* the basic octave scale. *Below* the octave (the low "G"), the *HaShem Malach* mode has the lower notes "E - **F sharp** - G" rather than the notes "E - **F natural** - G" that were *within* the main octave of the modal scale. From *three notes below* the octave to *three notes above the octave*, the notes of the *HaShem Malach* mode are: "**E - F sharp** - G - A - B - C - D - E - F - G - **A - B flat**".

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<sup>191</sup> Please see Appendix E-2, "Medieval Modes and *Nusach* Modes".

In previous discussions about musical modes that are used in the music of Eurasian cultures, there were references to “scale degrees”, “scale intervals”, and “tetrachords” as elements of modal structure. However, it is unintentionally misleading to conceive of musical modes with only these concepts. In the musical modes of the cultures and religions mentioned above, the “real work” of modal chant takes place among *musical motifs*, not in the underlying scales.

The *musical motifs* of individual Cantillation symbols *show the punctuation, accents, and chant* of the *TaNaKh* within the underlying musical modes of each chant system. As attention now turns to modes and musical motifs of Jewish Liturgical Chant, the 18 new graphic symbols represent the modal musical motifs within the modes and "sub-modes" of *Nusach HaT'fillah*.

Despite this discussion about musical motifs being more important than the underlying modal scales, one still needs a convenient comparative way to see how the musical modes are constructed. The most efficient way to present this information is to rely on “scale degrees”, “scalar intervals”, and “tetrachords” based on the medieval modes. Then one can examine the changes made to some of those modes in Jewish Liturgical Chant. It is important to state at this point *"a specific musical mode of Nusach HaT'fillah is a combination of modal musical motifs whose intervals can be shown in the form of their underlying modal scale."*<sup>192</sup>

#### **4.4.2 Scales underlying *Nusach* modes are similar to medieval modes**

The *Nusach HaT'fillah* modes will be reviewed in the order that they are used for chanting various sections within traditional *Shabbat* Jewish liturgy. The order this time is: *Mixolydian* (*HaShem Malach* mode), *Aeolian* (*Magein Avot* mode), modified *Phrygian* (*Ahavah Rabbah* mode), modified *Dorian* (*S'lichah* mode), and *Ionian* (source of the five notes in the Pentatonic mode). The *musical motifs* in these modes are shown by the *Simanei Nusach* graphic symbols.

The *HaShem Malach* mode is “straight *Mixolydian*” which sounds like a Major scale, but which has a *lowered 7<sup>th</sup>* scale degree. Its “scalar intervals” are “1–1–.5–1–1–.5–1” and it is easily identified by playing all the “white keys” on a keyboard from “G” to “G”. There is a customary “modulation” in the *HaShem Malach* mode to a higher musical phrase in Major, based on the 4<sup>th</sup> scale degree and returning to the 2<sup>nd</sup> scale degree. There are notes *above* and *below* the octave that have *different intervals*, as seen in Section 4.4.1 above. These different intervals are important in the musical motifs that comprise the total *HaShem Malach* mode.

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<sup>192</sup> An original formulation of this author; this exact wording was not taken from any other source.

The *Magein Avot* mode is “straight *Aeolian*” which sounds like the “natural Minor” scale, and it has several “sub-modes” which are chanted for the sections of various types of worship service. Its “scalar intervals” are “1–.5–1–1–.5–1–1” and it is most easily identified by playing all the “white keys” on a piano keyboard from “A” to “A”. There is a common “modulation” in the *Magein Avot* mode to a higher musical phrase in Major, based on the 5<sup>th</sup> scale degree in the “authentic” (“Do” to the upper “Do”) version of this musical mode.

The *Ahavah Rabbah* mode was discussed briefly near the end of Section 4.3.2 above, in the context of its related “*Maqam Hijaz*” in Arabic musical modes. Following the rubric used here, this is a “modified *Phrygian*” mode (which has a lowered 2<sup>nd</sup> scale degree) with a raised 3<sup>rd</sup> scale degree. Its “scale intervals” are “.5 – 1.5 –.5–1–.5–1–1” and it is most easily identified by playing the “white keys” on a piano keyboard from “E” to “E” but with a “G#” for the raised 3<sup>rd</sup> scale degree. There is a common “modulation” in the *Ahavah Rabbah* mode on *Shabbat* to a higher phrase in Major or Minor on the 4<sup>th</sup> scale degree, and returning to the 5<sup>th</sup> scale degree.

The *S’lichah* mode (also called “*Ukrainian Dorian*”) is a “modified *Dorian*” mode with a raised 4<sup>th</sup> scale degree. Its “scalar intervals” are “1–.5 – 1.5 –.5 –1–.5–1” and it is identified by playing the “white keys” on a piano keyboard from “D” to “D” but with a “G#” for the raised 4<sup>th</sup> scale degree. There is a customary “modulation” in the *S’lichah* mode to a higher phrase in Major, based on the 4<sup>th</sup> scale degree and returning to the 7<sup>th</sup> scale degree below the Tonic.

Finally, the Pentatonic mode is a five-note subset of the “*Ionian*” mode (Major scale). For this mode it is easier to specify the scale degrees of its five notes: “3, 4, 5, 6, 8” and possibly adding “2” and “3” above the octave. This is not a musical mode for which there is a tradition of modulation on any scale degree. Once again, the above description of these “modal scales” underlying the *Nusach HaT’fillah* of Jewish sacred chant are only a convenient way to compare musical modes. The musical motifs *within* each mode are the real “definition” of a mode, and it is the combination of those musical motifs that show the intervals of the underlying scale,

#### **4.4.3 Like *Maqamat* and *Ragas*, *Nusach* modes are built on tetrachords**

“Tetrachords” were introduced above in the context of the Cantillation motifs used for chanting various Biblical books. The more detailed discussion below will include a musical example of how a mode *changes* when a different “upper tetrachord” is “stacked” on the “lower tetrachord” that is being used to define the “musical family” of a mode.

This concept of “tetrachords” will also figure into a discussion about *authentic* and *plagal* versions of a musical mode. A clear way to illustrate this structure of a “family-defining” *lower* tetrachord and a “mode-specific” *upper* tetrachord is by presenting the first two phrases of the “*Miserlu*”, a popular Greek folk-dance melody. In the key of “C”, which by itself has no sharp or flats, here are the first two lines of music, written with in 4/4 time with the *names* of the notes:

C-C – D $\flat$  – E  $\natural$  – F // G-G-G-A $\flat$  – B $\flat$  – A $\flat$  // G ; (lowered 7<sup>th</sup>)  
C-C – D $\flat$  – E  $\natural$  – F // G-G-G-A $\flat$  – B  $\natural$  – A $\flat$  // G . (raised 7<sup>th</sup>)

Here are these same two lines of music written instead with *scale degrees*:

1-1 – 2 $\flat$  – 3 $\sharp$  – 4 // 5-5-5-6 $\flat$  – 7 $\flat$  – 6 $\flat$  // 5 ; (lowered 7<sup>th</sup>)  
1-1 – 2 $\flat$  – 3 $\sharp$  – 4 // 5-5-5-6 $\flat$  – 7 $\sharp$  – 6 $\flat$  // 5 . (raised 7<sup>th</sup>)

Here are the corresponding rhythms for these same two lines of music:

♩-♩ – ♩ $\flat$  – ♩ $\sharp$  – ♩ // ♩-♩-♩-♩ $\flat$  – ♩ $\flat$  – ♩ $\flat$  // ♩ ; (lowered 7<sup>th</sup>)  
♩-♩ – ♩ $\flat$  – ♩ $\sharp$  – ♩ // ♩-♩-♩-♩ $\flat$  – ♩ $\sharp$  – ♩ $\flat$  // ♩ . (raised 7<sup>th</sup>)

The first line of music is the Arabic *Maqam Hijaz*, with the lower tetrachord in the *djin*<sup>193</sup> (from the Greek *genus*) *Hijaz* and the upper tetrachord in *Nahawand*. The second line of music is in the *Maqam Hijaz-Kar*, with both the lower tetrachord and the upper tetrachords in *Hijaz* (with the characteristic “step-and-a-half” between the 2<sup>nd</sup> and 3<sup>rd</sup> notes in both tetrachords).

The same opportunity to modify the upper tetrachord of a particular mode is also available in the *Ahavah Rabbah* mode (similar to *Maqam Hijaz*) in *Nusach HaT'fillah*. This appears only in the more elaborate “High” *Ahavah Rabbah* modal musical motifs chanted on *Shabbat*. The range of the “Low” *Ahavah Rabbah* mode that is chanted on Weekdays does not extend beyond the lower tetrachord by more than two notes in either direction.

Modal music of Hindu *Ragas*, Arabic *Maqamat*, and *Nusach HaT'fillah* share the aspect of changing intervals above and below the scale of the basic octave. They also share the concept of tetrachords as “building blocks” of available notes. It is possible that these three types of modal music might also share the concept of “authentic” and “plagal” versions, though not those terms.

<sup>193</sup> Muallem, David. *The Maqam Book: A Doorway to Arab Scales and Modes*. translated by Yoram Arnon, ed. by Yossi Zucker. Kfar Sava, Israel: Or-Tav Music Publications, 2010; pages 72 ff. and 159 ff.

#### 4.4.4 Some musical modes exist in "authentic" and "plagal" versions

There is another “structural” concept that is relevant to musical modes, their scales and their motifs. This is related to the discussion about tetrachords in Section 4.4.3 above, and it is in the musical modes of both Biblical Cantillation and Jewish Liturgical Chant. For the scales of many musical modes, there is an *authentic* version that goes from “Do” to “Do” (from scale degree “1” to scale degree “8”), and a *plagal* version that goes from “Sol” to “Sol” (from scale degree “5” below the Tonic or “Do” to scale degree “5” above the “Do”).

This involves a discussion of “resting tones” and “chant tones”, and questions of where the *finalis* or “end note” might be in any particular musical mode. This author works with “movable Do” rather than “fixed Do”, and thus these syllables of *Solfeggio* can be easily transposed to any musical key that is comfortable. In the key of “G”, the “Do” is “G” and the “Sol” is “D”; in the key of “D”, the “Do” is “D” and the “Sol” is “A”, in both Major and Minor.

A given musical mode of *Nusach HaT’fillah* can exist in both *authentic* and *plagal* forms. The best example of this is the *Magein Avot* mode (*Aeolian* or “natural Minor”), which has several sub-modes as will be seen in Section 4.5.4 below. The *Magein Avot* mode is named for a prayer in the short set of paragraphs immediately after the silent *Amidah* in the Friday Evening service. In this section it is an “authentic” mode that extends from “Do” to the upper “Do”, with a “resting point” of “Sol”, and it modulates to the relative Major from the 5<sup>th</sup> scale degree.

This same *Magein Avot* mode is used in its “plagal” form for the *Sh’ma uVirchoteha* (*Sh’ma* and its Blessings) section in the main body of the Friday Evening service. In this section<sup>194</sup>, the *roles of musical motifs in the functions of a mode* become apparent. The “Opening” motif jumps from the low “Sol” to “Do” in its first two notes, and one of the “Pausal” modal motifs descends back to the low “Sol” (lower 5<sup>th</sup> scale degree). However, the *finalis* (ending note) is “Do”.

There is a relationship between the “authentic” versus “plagal” structure of the *Magein Avot* mode and the discussion about tetrachords just above. In the “Authentic” version, the bottom tetrachord was “Do - Re - Mi - Fa” and the upper was “Sol - La - Ti - Do”. In the plagal version of this same mode, the lower was “Sol - La - Ti - Do” and the upper was “Re - Mi - Fa - Sol”, resting on “Do” as the *finalis*.

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<sup>194</sup> Please see Appendices E-8 for “plagal” and E-9 for “authentic” versions of the *Magein Avot* mode.

#### 4.4.5 Nusach modes can indicate "mood" and "sacred time"

The average Jewish congregant might say that the Trope in the Biblical texts show how it is chanted. Most congregants do not know the detailed apparatus of punctuation and accentuation delineated by Trope, and how Cantillation helps identify and express the meaning of the Biblical texts. If one were to ask those congregants why Hebrew prayers are chanted rather than simply spoken, the answer is might be, "To add beauty to the worship services."<sup>195</sup> Again, that is only one of the several functions fulfilled by the modes and motifs of Jewish Liturgical Chant.

Every *change of liturgical text* in every Jewish holy day is reflected through *changes in the liturgical chants* of those texts. It is the **chanting** of Jewish liturgical texts in the traditional modes and motifs of each religious occasion that *signals* and **identifies these changes in texts** to the congregation. In addition, the *same prayer-text* might be chanted with *different modal musical motifs* on different religious occasions, and the **chant defines those occasions**.

Each "Musical Prayer-mode" is composed of many musical motifs within an underlying scale structure. These reflect the *general liturgical occasion*, the *time* in which a Weekday, *Shabbat*, or Festival worship service is being chanted, and *which part* of each service is being chanted. It is the *musical motifs* within each *Nusach HaT'fillah* (Musical Prayer-mode) that are unique to each *liturgical occasion*, each *worship service*, and each *section within* the liturgy.

Abraham Joshua Heschel said in "*The Sabbath*"<sup>196</sup> that Judaism brought to the world the concept that "*Sacred Time* takes precedence over *Sacred Space*".

"Judaism is a religion of time aiming at *the sanctification of time* ..."

"Judaism teaches us to be attached to *holiness in time* ... to sacred events ..."

"Jewish ritual may be characterized ... as *architecture of time* ..."

"... observances ... depend on a certain hour of the day or season of the year."<sup>197</sup>

"The meaning of the Sabbath is to celebrate time rather than space."

"... on the Sabbath we try to become attuned to *holiness in time*."<sup>198</sup>

"New in the teaching of Judaism was that the idea of holiness was gradually shifted from space to time, from the realm of nature to the realm of history, from things to events."<sup>199</sup>

[ *italic emphasis* is reproduced from Heschel's original text ]

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<sup>195</sup> Please see Appendix D-2 "Why Chant Prayers?"

<sup>196</sup> Heschel, Abraham J. *The Sabbath: Its Meaning for Modern Man*. New York: Farrar, Straus & Giroux, 2005.

<sup>197</sup> *ibid*, Prologue, page 8

<sup>198</sup> *ibid*, Prologue, page 10

<sup>199</sup> *ibid*, Chapter 9, page 79

It could be said that were this not the case, Judaism may not have survived the 1,900 years of Exile from the Land of Israel. It is the concept of *Sacred Time* that was totally portable, no matter where Jewish communities were established throughout the world. This is reflected in the ways that Jewish liturgy portrays *Sacred Time*, and in the ways that Jewish Liturgical Chant identifies a particular period of *Sacred Time* through sacred rituals and specific liturgical texts.

One of the *main functions* of *Nusach HaT'fillah* (Musical Prayer-modes) and their musical motifs is to **identify the “liturgical occasion”** in terms of *time of year, time of month, time of week, and time of day*. The musical motifs and their underlying modes of *Nusach HaT'fillah* help to make sense of the cycle of liturgical occasions, just as the various Trope systems and their underlying modes indicate what Biblical books are chanted for which Jewish holy days. In a sense, ***Trope and Nusach work together to identify Jewish sacred time.***

A *second* main function of the *modes* within *Nusach HaT'fillah* and their musical motifs is to **identify the sections of liturgy** being chanted *within each type of worship service*. A service can be as short as 15 minutes on a Weekday afternoon or as long as four hours on *Yom Kippur* morning. The “musical clues” of the traditional modes and motifs must be presented in a way that congregants can sense a *flow within the liturgical texts* throughout a worship service.

The *third* main function of the *modes* within *Nusach HaT'fillah* and their musical motifs is to help **identify the phrases** and thereby to **express the meanings** of the Hebrew texts as they are used in Jewish liturgy. This is a *function of the musical motifs* within each musical *Nusach* mode, just as pairs of Conjunctive and Disjunctive Trope express the meaning in Biblical texts.

There is more freedom in Jewish Liturgical Chant than in Biblical chant. The Masoretes assigned their Trope 1,200 years ago based on a received tradition, and Trope carry authority of that “codified Oral Tradition”. Liturgy is also chanted in phrases, and the *Simanei Nusach* visually delineate the phrases of modal chant. This is in the context of *agreed-upon traditional musical modes and their motifs* within the Eastern European Ashkenazic tradition.

The musical modes of *Nusach HaT'fillah* reflect the *moods* intrinsic in Jewish liturgical occasions. This discussion will give examples of how various moods inherent in the musical modes of *Nusach HaT'fillah* reflect the changing moods of the *Shabbat* 24-hour time-period, and the moods of the extended High Holy Days period covering several days. Like the way *Nusach* identifies sacred time, portraying mood is also an aspect of *Maqamat* and *Ragas*.

On *Shabbat*, there is a cycle of moods<sup>200</sup> that a traditional family (and Jewish community) experiences, and the musical motifs of *Nusach HaT'fillah*<sup>201</sup> reflect and reinforce these moods. The chanted liturgy of Friday evening begins as "upbeat" in *HaShem Malach*, and continues as restful in the "plagal" *Magein Avot* mode. *Shabbat* morning uses the *Yishtabach* sub-mode as a restful approach to the *Sh'ma* Section, and the more elaborate version of *Ahavah Rabbah* for the *Amidah*. The Torah is chanted in *HaShem Malach*, and the *Haftarah* in plagal *Magein Avot*. At *Minchah* the mood turns somber with another Minor sub-mode, because *Shabbat* will soon end.

There is a similar progression of mood changes mediated by the musical prayer-modes of *Nusach HaT'fillah* during the High Holy Days period. *Arvit* for *Rosh HaShanah* is chanted in a joyous Major, with a familiar and recurring “*MiSinai* Tune” congregational melody. *Shacharit* is chanted in a unique sub-mode of Minor, and the *Amidah* is also. *Torah* is chanted with a special mode, and the *Musaf Amidah* includes *HaShem Malach* motifs for the laudatory prayers.

By contrast, *Yom Kippur* is chanted in a somewhat more subdued manner, appropriate for asking forgiveness of misdeeds. *Kol Nidre* is a *MiSinai* melody, and the *S'lichot* Section has its own *S'lichah* mode (Minor with a raised 4th). *Yizkor* memorial prayers are somber, and *Musaf* contains highlights that have special melodies. For the *Neilah* closing service, the mood turns more upbeat as the congregation approaches the end of the 25-hour fast. There is a sense that prayers have been answered, and the modal chants reflect that belief and that positive mood.

Here is a short summary of the “mood-indicating” aspects inherent in *Nusach HaT'fillah*. *HaShem Malach* is usually laudatory and upbeat, and the *S'lichah* Mode (Ukrainian Dorian) is usually solemn and plaintive. The *Ahavah Rabbah* mode has a perfunctory Weekday version and a celebratory *Shabbat* version. The *Magein Avot* mode has several sub-modes; Weekday “Study Mode Minor” is perfunctory, while the *Yishtabach* sub-mode for *Shabbat* is elaborate.

Section 4.4 has presented many of the *musical structures* of *Nusach HaT'fillah*: musical motifs, scales, intervals, tetrachords, authentic and plagal forms, resting points, and comparisons with the medieval modes and musical modes of other cultures. This section has also reviewed and given examples of the *functions* of *Nusach HaT'fillah*: *identifying Sacred Time* within the Jewish religious calendar and the regular week, *specifying various sections of the liturgy*, and *showing the meanings and moods* of prayer texts through phrasing and modal musical motifs.

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<sup>200</sup> Please see Appendices E-6 through E-14 for notated music to see how the modal motifs change during *Shabbat*.

<sup>201</sup> Please see Appendix D-13 and D-14, “*Shabbat Services with Nusach*” and “*Shabbat Shacharit with Nusach*”.



## 4.5 Applications of the Prayer-modes to Liturgical Texts

To explore the functions of *Simanei Nusach* graphic symbols in Chapter 5, it must first be clear which musical modes and motifs of *Nusach HaT'fillah* are applied to which liturgical occasions and which sections of liturgy. Chapter 4 presented the structure of Jewish liturgy, and Section 4.4 detailed the structures and functions of *Nusach* "Musical Prayer-modes" and their motifs. The task of this Section 4.5 is to integrate these structures and functions.

For every prayer and *Nusach* mode, the traditional pattern is for the prayer-leader to begin a prayer aloud and soften to a quiet murmur, let the congregation "murmur along", and then chant the end section aloud. The dynamic (volume) is "medium", and the tempo (speed) varies with the liturgical occasion. Weekday is fairly fast, but *Shabbat* and Festivals are usually leisurely.

In this section, the modes and their musical motifs are discussed in the order "more simple to more complex", so that it will be clear how they relate within the structure of Jewish liturgy. These are not just "scales" (like the medieval modes) but "groups of modal motifs" that *combine to define* their underlying scales. The order of presentation in this section will be Pentatonic mode, *S'lichah* mode, *Ahavah Rabbah* mode, *HaShem Malach* mode, and *Magein Avot* mode.

### 4.5.1 The "Pentatonic" mode and the *S'lichah* mode have specific uses

A "Musical Prayer-mode" of *Nusach HaT'fillah* may be deemed "*a group of musical motifs that define the intervals of a scale.*"<sup>202</sup> The ethnomusicologist Abraham Zvi Idelsohn<sup>203</sup> said:

"A mode ... is composed of a number of motives ... within a certain scale. The motives have different functions. There are beginning and concluding motives, and motives of conjunctive and disjunctive character."

To restate this: "*A mode is **not simply a scale** but rather **a unique group of musical motifs with phrasing functions.** These motifs collectively indicate the intervals of their underlying scale.*"

In this context, it makes sense that intervals between notes *above* the octave or *below* the octave can be different from the intervals between those same notes *within* the octave of the given underlying modal scale. This can be seen in the motifs of the Pentatonic mode, which is mainly chanted for the *Amidah* of the Weekday morning (*Shacharit*) and Afternoon (*Minchah*) services. It is also chanted for the *Brachot* (Blessings) after the *Haftarah* (Prophetic Reading).

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<sup>202</sup> This is an original definition by the author, based on a composite of many sources but quoting none exactly.

<sup>203</sup> Idelsohn, Abraham Tzvi. *Jewish Music in its Historical Development*. New York: Henry Holt, 1929; page 24.

Within the notes of a Major scale (*Ionian* mode), the notes in the Pentatonic mode are “E”, “F”, “G”, “A”, and “C” which correspond to the scale-degrees “3, 4, 5, 6, 8” in the main octave. Above the octave there are motifs with the notes “D” and “E”, the scale-degrees “2” and “3” (or possibly “9” and “10”). The *finalis* (end-point) for the Closing motif in the Weekday *Amidah* is “5” (“*Sol*” in Solfeggio), and it is “3” (or “*Mi*”) in most of the *Brachot* after the *Haftarah*. There is no modulation in this mode. There are about eight musical motifs in the *Amidah* version of the Pentatonic mode<sup>204</sup>, and about a dozen modal motifs chanted for the *Brachot* after the *Haftarah*.

#### 4.5.2 The *S'lichah* mode is used heavily during the High Holy Days

There is some controversy among scholars of Jewish music over the *S'lichah* (Penitential) mode. For those who agree that this is actually a separate musical mode, there are a variety of other names that are used to identify it. However, there are also some scholars who feel that this is only a “variant” set of motifs that appear *within* other modes of *Nusach HaT'fillah*, such as in the *Kabbalat Shabbat* Psalms. The name for this mode / variant acceptable to many scholars is “Ukrainian Dorian”, because it is the medieval *Dorian* mode with a raised 4<sup>th</sup> scale-degree<sup>205</sup>.

In the 3<sup>rd</sup> Edition<sup>206</sup> of the “*Harvard Dictionary of Music*”, the article on “Gypsy Music” has a notated musical example that identifies this “*Dorian* mode with a raised 4<sup>th</sup>” as the “Gypsy Scale”. In the modal music of Northern India this mode is *Raga Todi*, and in Arabic music this mode is *Maqam Nakriz*. Research will be ongoing to see if motifs of this mode appear in the chants of the Roman Catholic, Ukrainian Catholic, and/or Eastern Orthodox churches. This mode is similar<sup>207</sup> to *Maqam Nakriz* in Arabic music, and it may not have an equivalent *Raga*.

In the *Nusach HaT'fillah* of the High Holy Days, most of the Penitential prayers in the *Yom Kippur* “*S'lichot* Section” are chanted with this mode, hence the name “*S'lichah* mode”. On both *Rosh HaShanah* and *Yom Kippur*, a penitential prayer “*Avinu Malkeinu*” (“our Father, our Ruler”) is chanted with the motifs of this mode. There are about 15 musical motifs, including several in modulation to “relative Major”. In the opinion of this author, the “*S'lichah* mode” seems to be a fully developed musical mode of *Nusach HaT'fillah*, and not just a variant within other musical modes such as *HaShem Malach*.

<sup>204</sup> Please see Appendices E-5, “Music for Low *A.R.* and Pentatonic” and D-15, “Weekday Services with *Nusach*”.

<sup>205</sup> Davidson, Charles. *Immunit III: Sefer Hadrakhah*. Elkins Park, PA: Ashbourne Music, 2010; page 314.

<sup>206</sup> Randel, Don. *The New Harvard Dictionary of Music* (3rd Ed.). Cambridge, MA: Harvard College, 1986.

<sup>207</sup> Muallem, David. *The Maqam Book* (2010) *op cit.*, page 151.

#### 4.5.3 The *Ahavah Rabbah* mode is chanted on Weekdays and *Shabbat*

There are two versions of the *Ahavah Rabbah* mode, a more simple version chanted on Weekdays, and a more elaborate version chanted on *Shabbat*. This musical mode has been discussed in Section 4.3.2 above, and its unique characteristic is the “step-and-a-half” between the lowered 2<sup>nd</sup> and raised 3<sup>rd</sup> scale degrees. Since the *Ahavah Rabbah* mode is a modification of the medieval *Phrygian* mode, it has the colloquial name “*Freigish*” among Yiddish-speakers of an older generation<sup>208</sup>. This mode is similar to *Maqam Hijaz* in Arabic music and to *Raga Bhairav* in Hindustani music, and it does not seem to appear in Catholic Church chants.

The Weekday version can be called “Low” *Ahavah Rabbah*, because its modal motifs have a narrow range (a fifth, or at most a sixth). Its *tessitura* (where most of the notes lie) is in the bottom tetrachord of the underlying scale, modulation is not included, and movement between notes is diatonic (step-wise) rather than in large leaps. Low *Ahavah Rabbah* is chanted for the *Sh’ma uVirchoteha* section of *Arvit* and *Shacharit* on Weekday evenings and mornings. Of the 18 modal musical motifs for which *Simanei Nusach* symbols are available in any given mode, only about a dozen motifs are chanted in the Weekday “Low” *Ahavah Rabbah* mode.

This same musical mode is chanted differently on *Shabbat*, and the differences illustrate how it is *musical motifs within an underlying scale* that determine the nature of a musical mode. Here are several characteristics of the “High” *Ahavah Rabbah* version of this same mode. Its motifs have a wide range – at least an octave, often more. There is no clear “*tessitura*” because the entire range of notes is used in various motifs. The 4<sup>th</sup> scale degree serves as a “pivot point” for modulations to higher musical phrases in both Major and Minor, and both modulations return to the 5<sup>th</sup> scale degree. It is common to move between notes with “jumps” of a fourth, a fifth, and even an octave among the motifs within the *Shabbat* “High” *Ahavah Rabbah* mode.

This version of *Ahavah Rabbah* is chanted for parts of the *Sh’ma uVirchoteha* section on *Shabbat* morning, and for most of the *Amidah* in *Shacharit* and *Musaf*. An experienced lay prayer-leader might use most of the 18 musical motifs for which symbols of *Simanei Nusach* are available. A professional *Hazzan* might use over 30 elaborate musical motifs for the same texts. This phenomenon can be seen in the notated music published by various Cantors during the 20th century for *Shabbat* services.

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<sup>208</sup> Please see Appendices E-5, E-12, and E-13 for notated music motifs of both *Ahavah Rabbah* mode versions.

#### 4.5.4 The *HaShem Malach* mode is chanted for "laudatory" occasions

It was mentioned above<sup>209</sup> that the underlying scale of the *HaShem Malach* mode and the Mixolydian mode are similar. However, there are notes both *above* and *below* the “main scale” of the *HaShem Malach* mode that have *different intervals* among them<sup>210</sup> than these same notes have *within* the main scale. This can best be seen by presenting note names of the main *HaShem Malach* octave scale from “G” to “G” with no sharps and flats, and then repeating them together with the additional notes in the underlying modal scale that are above and below the octave:

“G – A – B – C – D – E – F – G”    and  
“E – F<sup>♯</sup> – G – A – B – C – D – E – F – G – A – B<sup>♭</sup>”.

The upbeat and laudatory “mood” of the *HaShem Malach* mode is one of its salient features. It is used for chanting the Preliminary Service on Friday evening, the *Kabbalat Shabbat* Psalms. In this use of *HaShem Malach*, there is a common modulation on the 4<sup>th</sup> scale degree to another phrase in Major, which then returns to the 2<sup>nd</sup> scale degree. The “resting point” on which several of the “Pausal” motifs end is the 5<sup>th</sup> scale degree, similar to the term “dominant” in discussions of Church modes and Plainchant.

The “Ukrainian Dorian variant” discussed in Section 4.5.2 provides motifs that add “a dash of spice” to *Kabbalat Shabbat*. In many sections of liturgy where it seems that the chant is in Major (with a raised 7<sup>th</sup>), the chant is actually a version of the *HaShem Malach* mode. This is found at the beginning of the *Shabbat Amidah* in *Shacharit* and *Musaf*, and on *Rosh HaShanah*.

#### 4.5.5 The *Magein Avot* mode in Minor has several sub-modes

The *Magein Avot* mode has several “sub-modes” that are used in various liturgical setting throughout the year. Here is a listing of the main “sub-modes”: “Study Mode Minor” for Weekdays (and other times), *Yishtabach* mode for the *Sh'ma uVirchoteha* section of *Shabbat Shacharit*, a special mode for *Shabbat Minchah*, Hallel motifs for Psalms 113-118 on Festivals, and several distinct sub-modes that are chanted during sections of the High Holy Days services and during worship services on the Three Pilgrimage Festivals (Pesach, Shavuot, and Sukkot). “Authentic” and “plagal” versions are chanted in two parts of the Friday Evening service<sup>211</sup>

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<sup>209</sup> Discussed in Section 4.4.1 above.

<sup>210</sup> Please see Appendix E-6 and the left-hand column of Appendix E-7 for the notated motifs.

<sup>211</sup> As discussed in Section 4.4.4 above. Please see Appendices E-4, E-8, E-9, and E-10 for notated motifs.

The characteristics that all of these “sub-modes” have in common is that they are all based on a “Natural Minor” scale (*Aeolian mode*). What makes them all different is the fact that each sub-mode has a *different set of modal musical motifs*. The basic patterns and functions for some of these musical motifs will be discussed in Chapter 5 below. There are Opening, Continuing, Extension, Elaboration, Modulation, Medium Pausal, Strong Pausal, Penultimate, and Closing motifs in all the Musical Prayer-modes or *Nusach HaT'fillah* discussed in Section 4.5 above.

Since there are several sub-modes of *Magein Avot*, it is not possible to detail all the note ranges, modulations, movement between pitches, and other characteristics discussed above for the other “main modes” in the *Nusach HaT'fillah*. In general it can be stated that musical modes chanted on *Shabbat* evening, *Shabbat* morning, Festivals, and the High Holy Days have more motifs and they are more elaborate, while musical modes chanted on Weekdays (such as "Study Mode Minor") and on *Shabbat* afternoon have fewer motifs and they are more simple.

## **Conclusion to Chapter 4**

Chapter 4 has provided context about the structure and development of Jewish liturgy. The structure of liturgy is important, because one main function of the *Nusach HaT'fillah* Musical Prayer-modes is to delineate that structure musically. Modal musical motifs change with the time of day, week, month, and year, and from section to section in the same worship service. A prayer may be chanted one way at one point, and later in a different *Nusach* in another point.

The development of Jewish liturgy has an impact on how it has come to be chanted. In the areas of Jewish settlement in Northern and later in Eastern Europe, the ancient Middle Eastern style of liturgical chant was modified by the currents of medieval European music. However, in areas where Jews lived among Muslims in Spain, North Africa, the Middle East, and later the Ottoman Empire, the Middle Eastern aspects of Jewish Liturgical Chant were reinforced.

Chapter 4 also presented information on the structure of *Nusach HaT'fillah* and the modal musical motifs that are the components of a given *Nusach* mode. The context for this discussion was a review of some modes in other cultures in which there are similarities of musical modes. These included discussion of Arabic *Maqamat* and Hindustani *Ragas*. Similarities among these three musical forms – *Nusach*, *Maqamat*, and *Ragas* – include chanting on one melodic line; the correlation of specific modes with specific times of day, week, month, and year; the underlying musical structure of tetrachords; and the concept that a musical mode can be indicative of mood.

## Chapter 5 – Analysis of *Simanei Nusach* for Liturgical Chant

### 5.1 Graphics and function of Biblical *Ta'amei HaMikra* (Trope)

The first two sections of this chapter are a brief review of the material that was discussed in Chapters 3 (Trope) and 4 (*Nusach*) above. Section 5.3 presents details about the functions of the graphic symbols and where they are placed in the liturgical texts, and Section 5.4 elaborates on their punctuation and syntax aspects. Section 5.5 discusses aspects of assigning the graphic symbols in liturgical texts, and notating their musical motifs in a teaching software program.

#### 5.1.1 *Ta'amei HaMikra* indicate punctuation, accentuation, and chant

The Cantillation symbols of the Hebrew Bible were discussed in Chapter 3 above, and their source was identified as four generations of the ben-Asher family working in Tiberias during the 800's C.E. They added graphic symbols to the consonantal text of the Hebrew Bible for vowels, punctuation, accents, and chanting, and they built on the work of other Jewish communities in Babylonia and Palestine. They reflected the received Oral Tradition (*Masorah*) of the past, and they codified their understanding of the texts for the future through their graphic symbols.

The main function of Biblical Cantillation symbols is to indicate *punctuation* and syntax of the Hebrew Bible (*TaNakh*) text, and thereby to codify its meaning. The Tiberian Masoretes used their graphic symbols to indicate the *primary accent* of each Hebrew word by placing a Trope symbol *above* or *below* the *accented syllable*. They used a second Trope (or a *Meteg* accent) to indicate some *secondary* accents in words of three or more syllables. There is a Cantillation symbol on almost every word of Biblical text, and these indicate Biblical chants.

Trope appear in the liturgy of some Jewish prayerbooks (*Siddurim*) where Biblical texts have been quoted<sup>212</sup> in the liturgical text. In addition, Psalms have their own set of Trope which differ from those used in the 21 "Prose" books. When Psalms are quoted in a *Siddur* (Weekday, *Shabbat*, Festivals) or in a *Machzor* (High Holy Days prayerbook), their Cantillation symbols are not included, and they are chanted in *Nusach* motifs or sung to metric melodies. Dozens of Biblical verses are quoted throughout Jewish liturgy, compiled in paragraphs or inserted within liturgical passages, and Trope symbols are seldom used for these short Biblical quotations.

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<sup>212</sup> In *Siddur Sim Shalom* (1985): *V'sham'ru* (Ex. 31:16-17) and *Vaychulu* (Gen. 2:1-3) on *Shabbat* evening, and *V'ahavta* (Deut. 6:4-9), *V'hayah* (Deut. 11:13-21), and *VaYomer* (Num. 15:37-41) every morning and evening .

### 5.1.2 Shapes of *Ta'amei HaMikra* reflect shapes of their musical motifs

"Chironomy" hand-signals for *Torah* chant were being used in Talmudic times, and in some Jewish communities they are used today. There may be a connection between musical motifs of Biblical chant (for indicating phrasing) and the shape of the "Chironomy" hand-signals done by the *Tomech* or "Helper" (possibly a *Gabbai* functionary). Graphical symbols were developed for punctuation, accentuation, and chant in Babylonia and Palestine during the 600's – 800's C.E. Perhaps the shapes of these Trope were related to the "musical line" of their chanted motifs.

One aspect of Trope not discussed previously is the names of Masoretic symbols. These reflect a mixture of Hebrew and Aramaic, and each name carries a meaning related to the shape of the Trope symbol, its punctuation function, or its common musical motif. As stated above, there may be relationships between the "musical line" of a common motif and the *shape* of a Trope, and the name usually highlights one of these three specific aspects. *Darga* is a "zigzag" backwards "Z" shape, its name means "step-wise" (from the root word for "steps"), and its musical motif is usually "diatonic" ("step-wise").

### 5.1.3 This system of "Masoretic accentuation" has endured for 1200 years

When one asks, "How is a *R'via* chanted?" the answer depends on two questions: "*R'via* for *Torah*, *Haftarah*, *Eichah*, *Ester*, High Holy Days *Torah*, or Festival *M'gillot*?" "*R'via* for which of these Bible books among the Jews of *what community*?" One similar question must be asked about chanting the various musical motifs of each graphic symbol in the new *Simanei Nusach*: "Which Musical Prayer-mode of *Nusach HaT'fillah* is being used for a given liturgical occasion, time, Liturgy section, and text?" There are only 18 new symbols, but there are over a dozen modal musical motifs that can be chanted for each one, depending on the time of week and day, the section of worship text, and the musical mode and sub-mode of each *Nusach*.

The "bottom line" about Biblical Cantillation is that the Masoretes perceived problems with transmission of an Oral Tradition for chanting a consonantal text. They solved those problems brilliantly by inventing vowels and Trope symbols that are still used 1,200 years later, together with an apparatus of notes for textual emendation. They preserved the "received Hebrew text" and codified it for the future. In a modern era of notated music, recordings, and software, Trope symbols are easily taught. ***How can a set of new graphic symbols be used to preserve and teach phrases of liturgical chant, especially to lay religious leaders who do not read notated music?***

## 5.2 *Nusach* motifs show punctuation and meaning of prayer-texts

Section 2.4 above presented a brief introduction to semiotics and musical semantics. The musical motifs within the liturgical modes of *Nusach HaT'fillah* function as phrase-markers within the texts of Hebrew prayers. This may be one "signification of meaning" for *Simanei Nusach* graphic symbols, a concept of semiotics. *Nusach* modes and music motifs also identify sacred times, sections of liturgy, and the moods inherent in liturgical texts. These functions may be more in keeping with the concerns of musical semantics that were discussed in Chapter 2.

### 5.2.1 There are clauses, phrases, and word-pairs in the prayerbook texts

Unless a person who is leading Jewish worship knows Hebrew very well, there are few clues in the presentation of liturgical texts on a prayerbook page that indicate the logical phrasing and punctuation. Various *Siddurim* and *Machzorim* offer fewer or more of commas within sentences, and there may be clues about Hebrew phrasing in the punctuation of the English translation.

There are a few *Siddurim* and *Machzorim* that "stack" the phrases of the Hebrew texts. In 1961, the Rabbinical Assembly published a Conservative Weekday *Siddur*<sup>213</sup> in which both the Hebrew and English are "stacked" by phrases on facing pages. In 1981 Koren Publishing issued a Hebrew *Siddur*, with "stacked" Hebrew phrases; this was reissued in 2009<sup>214</sup> with "stacked" English translation. In the 1980's Metsudah Publications issued Weekday and *Shabbat* "Linear" *Siddurim*<sup>215</sup>, and "Linear" High Holy Days and Three Festival sets of *Machzorim*.

In 1998, ArtScroll published a set of linear *Siddurim*<sup>216</sup> with transliteration (Ashkenazic) and translation, and they pioneered an effective "Interlinear translation"<sup>217</sup>. Reconstructionist Movement affiliates have recently produced *Siddurim* with a four-column format<sup>218</sup> across each two-page spread, offering transliteration and two alternate translations. Two new *Siddurim* of the Reform Movement, *Mishkan Tefilah* (2007)<sup>219</sup> in America and *Forms of Prayer* in Britain (2008)<sup>220</sup>, both at first glance seem to be "linear", but their "word-wrap" is not consistent.

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<sup>213</sup> Hadas, Gershon, ed. *Weekday Prayer Book*. New York: Rabbinical Assembly, 1961.

<sup>214</sup> Sacks, Jonathan, ed. *The Koren Siddur*. Jerusalem: Koren Publishers / Orthodox Union, 2009.

<sup>215</sup> Davis, Avrohom, ed. *The Complete Metsudah Siddur* (Linear). New York: Metsudah Publications, 1990.

<sup>216</sup> Scherman, N. & Yudin, B., eds. *The ArtScroll Siddur* (Seif Edition, Transliterated Linear), Weekday / Sabbath & Festival. New York: Mesorah Publications / Orthodox Union, 1998.

<sup>217</sup> Davis, Menachem, ed. *The ArtScroll Siddur* (Schottenstein Edition, Interlinear translation), Weekdays / Sabbath & Festivals. New York: Mesorah Publications, 2002.

<sup>218</sup> Frydenberg, Mark, ed. *Siddur Chaveirim Kol Yisraeil*. Boston: Progressive Chavurah / Ktav Publishing, 2000.

<sup>219</sup> Frishman, Elyse, ed. *Mishkan T'filah, a Reform Siddur*. New York: Central Conf. of American Rabbis, 2007.

<sup>220</sup> Magonet, Jonathan, ed. *Forms of Prayer* (8<sup>th</sup> Edition). London: Movement for Reform Judaism, 2008.



These resources are useful, especially for lay prayer-leaders who might not have a high level of knowledge about the grammar and meaning of the prayer-texts. Just like *Torah* Cantillation, chanting liturgy in Hebrew with incorrect phrasing can lead to changes in meaning of the text. If a lay prayer leader knows basic Hebrew grammar, then prepositions and conjunctions help with phrasing and identifying word-pairs such as subject-verb, verb-object, and preposition-object<sup>221</sup>.

### 5.2.2 Musical motifs in a *Nusach* mode reflect the delineation of phrases

In a traditional style of liturgical chant during Jewish worship, the congregation may read or quietly murmur the text of a given paragraph, and the *Shali-ach Tzibbur* then chants aloud the last full sentence or two along with the concluding *B'rachah* (Blessing). This "concluding formula" is called the "*Chatimah*" (literally "Seal"), and it has the form "Praised / Blessed are You, God, \_\_\_\_\_." This is a *summary* about the subject of that entire prayer or section.

Regardless of the modal musical motifs chanted for the previous paragraph (or paragraphs) in a section, there is a special motif assigned by Oral Tradition for this concluding formula. This motif is usually used even when the rest of that paragraph has been sung to a congregational melody, rather than chanted with *Nusach* motifs. This is just one type of phrase in the text of Jewish Liturgy that is delineated by the choice of specific musical motifs, and those motifs differ when the same text is used for varying other liturgical occasions.

The *Chatimah* (concluding formula) of the Creation paragraph near the beginning of the Evening Service always has the same Hebrew text: "Praised are You, God, Who brings the Evening." These exact same words are chanted in the Low *Ahavah Rabbah* mode (or usually in Study Minor) on Weekday evenings, in the "plagal" version of the *Magein Avot* mode on *Shabbat* evening, in the *HaShem Malach* mode on evenings of the High Holy Days, and in a sub-mode of the Minor *Magein Avot* mode on Festival evenings.

In each situation, the modal musical motifs have *five simultaneous functions*: they identify the "*liturgical occasion*" (Weekday, *Shabbat*, High Holy Days, Festival), *time of day* (Evening), the *section* of the service (*Sh'ma* and its Blessings), *mood* of the occasion (perfunctory Weekday, restful *Shabbat*, laudatory High Holy Days), and that this is the *concluding formula phrase*.

There is a need to identify the logical phrases in the Hebrew text of the liturgy. Whether or not one knows Hebrew grammar, has access to the "linear" prayerbooks discussed above, or

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<sup>221</sup> Please see Appendix E-1, "*Nusach* Problem-Solving Issues".

follows the commas in a prayerbook text, there is still the issue of which phrases are chanted as "Openers", "Linkages", "Pausals", and "Closers" to identify the syntax of the Hebrew texts.

To answer the question asked at the end of Section 5.1 above, these new graphic symbols are crafted to reflect the "*commonly-accepted Ashkenazic tradition of musical modes and their motifs, for particular liturgical texts as chanted on given occasions.*" Like the Biblical Trope symbols, these symbols *preserve and teach* the musical motifs of Jewish Liturgical Chant.

### 5.2.3 Teaching Jewish Prayer-chant to those who do not read music

There was one early attempt to develop a set of graphical symbols for chanting musical motifs in Jewish liturgy. This was presented by Cantor Reuven Frankel to the 29th Cantors Assembly Convention in the Catskill Mountains on May 12, 1976, during a workshop entitled "*A New Approach to Teaching Nusah Hatefillah*" [sic]<sup>222</sup>.

Cantor Frankel attempted to do with his "*Nusah*-Trope" what the Babylonian scholars tried to do with their version of Biblical Cantillation symbols. He gave names to different types of musical motifs, and the shapes of the symbols he proposed were derived from the first letter of these alphabetical "motif names" (using a unique stroke from each letter).

Cantor Frankel also used another characteristic of Cantillation symbols. He devised a symbol (based on his "motif names") for most words in each prayer. The result is similar to the problems of the Trope devised by the Babylonian scholars. The Babylonian Trope<sup>223</sup> were all above the words, along with their version of the vowels.

The result was too many symbols where the square Hebrew consonants already have much ink. Tiberian Trope are more legible because they are split between those above the words (*supra-linear*) and those below the words (*sub-linear*). By placing<sup>224</sup> so many "*Nusah*-Trope" symbols above the words of liturgical text, Cantor Frankel reduced the legibility of the texts.

On the other hand, Cantor Frankel was definitely "on the right track" with the *functions* of his "*Nusah*-Trope" for phrasing the prayer-texts and for accenting the words. Here is a quote from page 150 of his article in the "*Proceedings*" of the 1976 Cantors Assembly Convention:

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<sup>222</sup> Frankel, Reuven. "A New Approach to Teaching Nusah Hatefillah." *Proceedings, Cantors Assembly 29th Annual Convention*. May 1976, pp. 138 - 159.

<sup>223</sup> Please see Appendix F-2 for examples of Babylonian and Tiberian Trope, and for Frankel's "*Nusah*-Trope".

<sup>224</sup> Please see Appendix F-3 and F-6 for examples of the difference in legibility between the two systems.

"You will notice that the Nusach-Trope notation is placed in such a way that it determines the accent, it determines the phrasing of the melody, and it determines the phrasing of the words."<sup>225</sup>

It was decided during 2005, early in the development of the new *Simanei Nusach* graphic symbols, that they would be "motif-based" by *phrases* rather than by words. The fact that both Frankel's "Nusach-Trope" and the new "Simanei Nusach" delineate text phrases is very important. This punctuation function within Jewish Liturgy is derived from the "punctuation function" of the Biblical Trope symbols in the Hebrew Bible<sup>226</sup>.

There is another type of system for indicating *Nusach* motifs, but this does not use graphic symbols. Cantor Pinchas Spiro prepared a series of books published by the Cantors Assembly, each of which is called a "*Musical Siddur*" (or for High Holy Days, a "*Musical Machzor*"). In each book has the text for a particular set of worship services (Weekday, *Shabbat*, High Holy Days, Festivals), and interwoven lines of notated music for most of the Hebrew prayer-texts.

In the second book of this "Musical Siddur" series, "*Preliminary Service for Sabbath and Festivals*"<sup>227</sup>, Cantor Pinchas Spiro used only the English letters "a" through "e" and the number "2" to indicate musical motifs that he called "themes", set up as "Statement" and "Resolution" musical phrases<sup>228</sup>. This worked for the *Shabbat* Preliminary Service, traditionally chanted in *HaShem Malach* mode, because there are few musical motifs in this section of the service.

However, Cantor Spiro did not use his system of indicating the musical motifs within the *Nusach HaT'fillah* of any other service. This does not appear in any of his other books, and the probable reason is simple. There are too many musical motifs in the other modes of *Nusach HaT'fillah* chanted during other liturgical occasions for this to be a workable system.

By publishing the Spiro "*Musical Siddur*" series in print and as a set of recorded CDs, the Cantors Assembly met the primary objective of "addressing multiple VAK learning modalities" (Visual, Auditory, and Kinesthetic). Those who can read notated music have the interwoven

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<sup>225</sup> Frankel, Proceedings (1976) *ibid.*, page 150.

<sup>226</sup> There has been one other attempt to devise a useable set of graphic symbols for delineating the musical motifs of liturgical chant. Cantor Joel Caplan has taught at the JTS Cantorial School, and his students indicated to this author that he was using a preliminary set of symbols for musical motifs. He indicated to this author and to the *Tefillah Trainer*<sup>TM</sup> developer that his symbolic system was not fully developed, and that he is supportive of the new *Simanei Nusach* graphic symbols developed by this author and discussed in this thesis.

<sup>227</sup> Spiro, Pinchas. *Preliminary Service: a Musical Siddur*. New York: Cantors Assembly, 1984, pp. iii - vi.

<sup>228</sup> He identified three "sub-themes" ("a", "b", "c") for the "Statement" phrase and two "sub-themes" ("d", "e") for the "Resolution" phrase, a "combination" alternative ("a/b"), and an alternative ending ("E2") musical motif.

lines of "music staff and notes" available, those who need a little help with details of the Hebrew texts have Spiro's meticulous transliteration under the music notes, and those who cannot read notated music (or even those who do) have the recorded CDs as a learning tool.

### **5.3 New system of graphic symbols for Jewish Prayer-modes**

At the end of Section 5.1 above, after a brief review of how Trope symbols function in the Hebrew Bible to codify punctuation, accents, and meaning, the question was asked:

***"How can a set of new graphic symbols be used to preserve and teach the phrases of Jewish Liturgical Chant, especially to those lay religious leaders who do not read notated music?"***

The brief review above included how the musical motifs in the prayer-modes of *Nusach HaT'fillah* delineate times, sections, phrases, moods, and the meaning of liturgical texts. The answer to this question<sup>229</sup> was given in Section 5.2: ***"... new graphic symbols have been crafted to reflect the "commonly-accepted Ashkenazic tradition of musical modes and their motifs, for particular liturgical texts as chanted on given occasions."***

The rest of Chapter 5 will examine more details of the *Simanei Nusach* graphic symbols, including how they have been applied in the *Tefillah Trainer*™ teaching software program.

#### **5.3.1 Like Trope, *Simanei Nusach* reflect punctuation within liturgical texts**

Disjunctive Trope symbols show separations and relationships among clauses, phrases, segments, and word-pairs, as discussed in Chapter 3 above. These same relationships exist in liturgical texts of the prayerbook, but except for Cantor Frankel's attempt in the 1970's, there have been no graphic symbols that have received widespread acceptance for showing those relationships in Hebrew liturgical texts.

In Chapter 2, a distinction was made between the training available in Cantorial Schools (reading notated music is a requirement) and other forms of training available for lay religious leaders (who may or may not read notated music). The *Simanei Nusach* graphic symbols were originally developed to meet the needs of lay leaders in the United Synagogue *IMUN Program*, half of whom did not read music. It soon became clear that in each mode of *Nusach HaT'fillah* only less complex musical motifs would be taught, and these needed graphic symbols.

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<sup>229</sup> At the end of Section 5.2.2 above.

The original seven graphic symbols in 2005 reflected general "phrasing" motif categories of "Opening" (*Dark Triangle*), "Linkages" such as "Continuation" (*Left Arrow*) and "Extension" (*Tilde*), "Medium Pausal" (*Double Lines*), "Strong Pausal" (*Dark Circle*), "End Blessing" (*Asterisk*), and "Closing" (*Dark Square*). At that time it was determined that the Opening, Linkages, and End Blessing motifs were "Conjunctive" (Joining) functions, and the two Pausals and the Closing were "Disjunctive" (Separating) functions. This reflects how these musical motifs and their symbols originally delineated punctuation and syntax within the Hebrew texts.

These original seven *Simanei Nusach* were experimentally used in the *Tefillah Trainer*™ teaching software that was being developed by Kinnor Software. The Weekday services were the first for which music was notated, and these have a smaller number of musical motifs. As the *Shabbat* sections of the Liturgy were notated using their Musical Prayer-modes and motifs of *Nusach HaT'fillah*, it became clear that additional graphic symbols were needed to reflect the range of modal musical motifs in the *Nusach HaT'fillah* modes of *Shabbat*.

This led to adding new *Linkage* symbols (*Left Hook*, *Infinity*, and the *Up Arrow* for *Modulations upward*) and new *Pausal* symbols (the *Letter X* for *Penultimates*, the *Triple Lines* for longer *Medium Pausals*, and the *Down Arrow* for *Modulations downward*). Copyright is shared by this author and Thomas Buchler, the developer of the *Tefillah Trainer*™ software, because Tom helped identify shapes that could be used for these additional symbols.

### **5.3.2 Ta'amei HaMikra are on each word to show segments and word-pairs**

There were now (2006) over a dozen *Simanei Nusach* graphical symbols, and it was time to "beta-test" them with adult students. During the *IMUN Program* of that summer, a discussion took place about where these symbols should be placed relative to the Hebrew liturgical texts. It was decided to place just *one* symbol over the *first word* of each Hebrew phrase.

In some paragraphs of the liturgy, there is subtle musical transition to the *Nusach* mode and motifs that will be chanted in the *next* section. This is called "anticipation", and it happens several times during the course of a complete *Shabbat* Morning worship service. In order to assign symbols for the motifs of both musical modes in one prayer, three of the original seven *Simanim* (*Dark Triangle*, *Dark Circle*, and *Dark Square*) were used in an "open" or "outline" form. These became the *Open Triangle*, *Open Circle*, and *Open Square*, and they have the functions *Secondary Opening*, *Secondary Strong Pausal*, and *Secondary Closing*.

There are two strong similarities between the *Ta'amei HaMikra* of Biblical Cantillation and the *Simanei Nusach* of liturgical chant. For Trope, *each graphic symbol takes on a variety of musical motif values* as it functions in a "system" of Cantillation (*Torah, Haftarah, Esther, Lamentations, ...*). For these new *Simanim*, *each graphic symbol takes on a variety of musical motif values* as it functions within a "musical mode" of *Nusach HaT'fillah* (*HaShem Malach, Magein Avot, Ahavah Rabbah, Pentatonic, ...*).

Another similarity between Trope and *Simanim* is that the *name, shape, and syntax function* of each graphic symbol *do not change*, even as *various musical motif values* are represented by that symbol. This holds true for the 27 Cantillation symbols of various Biblical texts (using the Masoretic Trope), and in the modal *Nusach* chant for various liturgical occasions and service sections (delineated by the 18 *Simanei Nusach* symbols) through the Jewish religious year. The Trope are applied to six types of books in chanting the Hebrew Bible, and the new *Simanim* are applied (so far) to over a dozen musical modes and sub-modes for Jewish Liturgical Chant.

### **5.3.3 *Simanei Nusach* delineate entire phrases in the syntax of Hebrew liturgy**

The last two *Simanei Nusach* symbols were added in 2007<sup>230</sup>, bringing the number of new graphic symbols to 18. This number was dictated by a balance between two conflicting factors. The more elaborate musical modes of *Nusach HaT'fillah* needed enough graphic symbols for their melismatic modal musical motifs. However, the intended audience of teaching software in which these *Simanim* were now being used was lay prayer-leaders rather than professionals.

These last two new symbols were both *Linkages: Elaboration Upward* (the *Upward U*) and *Elaboration Downward* (the *Downward U*). These additional symbols were needed because the modal musical motifs are complex for the liturgy of *Shabbat*, High Holy Days, and the Three Festivals, even when one is notating only their most basic motifs. The more elaborate style of chanting on these liturgical occasions is part of the "celebratory mood" that is conveyed by the *Nusach HaT'fillah* through its motifs.

An article by Baruch Cohon<sup>231</sup> has been one of the "foundational documents" for analysis of the musical motifs within the modes of *Nusach HaT'fillah*. Based on work of A.Z. Idelsohn, Cantor Cohon presents this over-arching structure for the modal musical motifs of *Nusach*:

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<sup>230</sup> Please see Appendix F-10, *Simanei Nusach* with Linkages 2007".

<sup>231</sup> Cohon, Baruch. "The Structure of the Synagogue Prayer-Chant." *Journal of the American Musicological Society*, Vol. 3, No. 1, Spring 1950; pp. 17 - 32.

"Beginning Phrases", "Intermediate Phrases", and "Concluding Phrases". Cohon subdivides the "Intermediate Phrases" into "Pausal Phrases", "Modulations", and "Pre-Concluding".

The 2007 set of *Simanei Nusach* has now been refined and changed considerably. It is less derivative of the Trope terms "Conjunctive" and "Disjunctive", and more attentive to terms for *Nusach* motifs: "Openings", "Linkages", "Pausals", and "Closings". Sub-types of "Linkages" (or "Intermediates") now include "Continuations", "Extensions", and "Elaborations". Sub-types of "Pausals" now include "Modulations" and "Penultimates".

#### **5.3.4 *Simanei Nusach* indicate "musical functions" of modal musical motifs**

In 2011 three factors converged to cause this reassessment of the original functions signified by the *Simanei Nusach*. These were: 1) analysis of these new graphical symbols in the context of this thesis; 2) preparing music notation and assigning *Simanim* for a few hundred High Holy Days prayers in *Tefillah Trainer*<sup>TM</sup> teaching software; and 3) teaching High Holy Days *Nusach* online to Hebrew College (Boston) students using *Tefillah Trainer*<sup>TM</sup> software as a resource. The result was discovering that some "Linkage" or "Intermediate" musical motifs function as a Conjunctive *or* as a Disjunctive phrase-marker, depending on the syntax of the Hebrew text.

Among *Simanei Nusach* symbols that *always* function as Disjunctives or Separators, several *Simanim* can be compared with Disjunctive Trope, because their "phrase-identifying" functions are similar. The *Dark Square (Closing)* has the function of a *Silluk* (or *Sof Pasuk*), a period at the end of a Bible verse. The *Dark Circle (Strong Pausal)* has the function of an *Etnachta* (a "semi-colon" marking the approximate midpoint of a Bible verse). The *Double Lines (Shorter Medium Pausal)* functions as a *Zakeif Katon* (a "comma" ending a phrase), while the *Triple Lines* (the *Longer Medium Pausal*) functions as a *Zakeif Gadol* (an elaborate "comma" motif).

#### **5.3.5 Graphic symbols are placed at the *beginning* of each Hebrew text phrase**

The decision was made during the summer 2006 to place one *Siman* (singular of *Simanim* or *Simanei Nusach*) above the first word of a phrase in liturgical text, and in the corresponding place in the notated music of the liturgical chant for that text. The Hebrew text itself is "stacked" by logical phrases, using the "Michigan-Claremont-Westminster" (MCW) computer code for the Hebrew texts. These are three Universities where a useful Hebrew coding system was refined during the 1980's, and MCW code is used by the Jewish Publishing Society for their *TaNakh*<sup>232</sup>.

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<sup>232</sup> Stein, David S., ed. *Hebrew - English TaNaKh*. Philadelphia: Jewish Pub. Society, 1999; Preface, pp. xii-xiii.

This author knows how to read and write in MCW code, and it is used to "stack" the logical phrases of Hebrew text one above another in the upper portion of the *Tefillah Trainer*<sup>TM</sup> software screen. When the *Simanim* are assigned based on their musical motifs to delineate phrases of the Hebrew text, there is usually a *Siman* over the first word of each line in the "stacked" Hebrew. This is transferable to prayerbooks which print "blocks" of prayer-text; these small symbols can be handwritten above lines of Hebrew to show where each phrase and its musical motif begins.

Section 5.3 introduced details about the *Simanei Nusach*, and traced the development of this new system. Section 5.4 addresses details about "music syntax" and "text syntax", and Section 5.5 describes how the *Simanim* symbols are applied in Kinnor's teaching software. Additional points: The first is *how the shapes were chosen* for some of the original graphic symbols. They were taken from common symbols on most *electronic devices*: the "Start" button (Triangle), "Pause" button (Double Lines), and "Stop" button (Square). Other shapes *reflect the "prevailing direction" of the musical line in each type of motif, or its punctuation function*.

Second point: there are ambiguities in the phrasing of the Hebrew liturgical texts, which is why commas in one *Siddur* may differ from those in another. When *Simanim* are assigned to a Hebrew prayer-text, several *Siddurim* are consulted to arrive at a consensus for the best phrasing. However, a *Hazzan* or any other *prayer-leader who knows Hebrew could disagree with these phrasing decisions, and he or she could also make different choices of the assigned motifs*. The bottom line is that *Siman* motifs are "suggestions" based on tradition, but not "requirements".

#### **5.4 *Simanei Nusach* show syntax and chanting of Liturgy texts**

One term that has not been introduced to the discussion about chanting the *Nusach* motifs (represented by the *Simanei Nusach*) is the concept of "Psalmody", and with that the use of a "reciting tone" or "chant tone". Both of these terms refer to the chanting of multiple syllables (or multiple words) on one musical note, with an *Opening* musical motif leading to that note, some sort of "Linkage" motif, and a *Pausal* musical motif concluding the phrase of text.

Most of the musical motifs notated for the musical modes of *Nusach HaT'fillah* do not look "Psalmodic" by themselves, but "in practice" as applied to the phrases of liturgical texts, there often are "reciting tones" or "chant tones" notated. This is also a characteristic of Christian Plain-chant, which may be closely related to Cantillation and to *Nusach* motifs<sup>233</sup>.

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<sup>233</sup> Several books on Plainchant or Gregorian Chant were consulted on this, and they are in the Bibliography.



### 5.4.1 Main motifs within *Nusach* are Opening, Linking, Pausal, and Closing

Some details of the "phrasing functions" delineated by *Simanei Nusach* were discussed in Section 3.3 above. In this additional exploration of that important subject, the basic "underlying structures" of musical motifs are identified as "Openings", "Linkages", "Pausals" and "Closings". While this approach does not reflect verbatim any particular scholarly approach, it has proven to be a useful "skeleton" on which to hang specific types of *Simanei Nusach* musical motifs. These also reflect the earliest stages in the development of the *Simanim* symbols during 2005.

The *Opening* motif that is marked with the *Dark Triangle* is usually the *first musical motif of the end-portion* in each paragraph of prayer that is chanted by the leader. In most *Siddurim*, there is a mark in the margin or in the Hebrew text to show where the *Shali-ach Tzibbur* usually begins to chant. In the *Tefillah Trainer* software, there is internal coding that changes the font to bold for the sentences that are usually chanted aloud by the prayer-leader. The *Triangle* (both *Dark* and *Open*) faces to the left, because Hebrew is written from right to left.

Several types of *Linkage* motifs will be discussed below<sup>234</sup>, so only the above-mentioned *Continuation* motif will be discussed here. This is signified with a *Left Arrow* ("right-to-left" Hebrew), and the musical chant of the *Continuation* motif is often "Psalmodic" with a "chant tone" as discussed above. This symbol is also used to signify a *Re-opening* motif in certain musical modes of *Nusach*, such as the High *Ahavah Rabbah* mode chanted on *Shabbat* morning.

The "Pausal Power" of various Disjunctive Cantillation motifs was discussed in Chapter 3, and equivalent *Simanei Nusach* "Disjunctive" motifs were identified above<sup>235</sup>. It is interesting to note that Cantor Cohon considers *Pausals* to be one type of "Intermediate" motif, whereas in the opinion of this author they are an important category by themselves. The *Strong Pausal* signified by the *Dark Circle* (equivalent to *Etnachta* of Biblical Trope) is usually placed near the middle of a sentence, but there are sentences in which the division of "main clauses" is not equal (as there are in the Hebrew Bible). The *Closing* signified by the *Dark Square* (equivalent to *Silluk* or *Sof Pasuk* in Trope) is almost always the final motif of any passage, especially if the *Asterisk* was used on the *Chatimah* (the summarizing "Seal") in the Penultimate text.

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<sup>234</sup> Discussed in Section 5.4.2 below.

<sup>235</sup> Discussed in Section 5.3.4 above.

### 5.4.2 Additional motifs are Extension, Elaboration, Modulation and Penultimate

The structure of "phrase function" signification in this system uses additional "Linkage" musical motifs for the chant of some text phrases. While these may seem somewhat elaborate by comparison to the very basic motifs mentioned just above, these in fact are just a few of the possible motifs that are chanted for these same texts by a professional Cantor.

In many musical modes of *Nusach HaT'fillah*, a second "continuation" motif has a higher set of middle notes. As the High Holy Days chants were notated, it became clear that there was a pattern of a *Left Arrow* (Continuation) followed by *Double Lines* (Shorter Medium Pausal), then another phrase with a *Hook* (Continuation Upward) followed by *Triple Lines* (Longer Medium Pausal). This musical pattern reflects a characteristic of Classical Hebrew syntax, whereby a statement is made, and the same idea is reiterated in slightly different language.

"Modulations" are specific to the musical modes and motifs of *Shabbat*, High Holy Days, and Festivals. Chapter 4 had some discussion about the typical scale degrees for each musical mode of *Nusach HaT'fillah* from which a Modulation can be "launched" and to which the chant "Returns". The corresponding places in the liturgical texts are marked with the *Up Arrow* and the *Down Arrow*. While these motifs are types of *Linkages* or "Intermediate Phrases", the *Up Arrow* is a Conjunctive musical motif, and the *Down Arrow* is a Disjunctive musical motif.

In addition to the *Asterisk* symbol which is usually used for the *Chatimah* ("Seal" or *Ending Blessing*), the *Letter X* is a specific type of *Medium Pausal* that is usually used for a *Penultimate* (Pre-Concluding) musical motif. For the High Holy Days musical modes and motifs, the three "Open" symbols are used for additional motifs. Originally they were meant for those situations in which a paragraph begins in one *Nusach* mode and ends in another. *Open Triangle*, *Circle*, and *Square* were used for the mode that was ending, and *Dark Triangle*, *Circle*, and *Square* for the new mode. These "Open" symbols now can represent additional modal musical motifs.

### 5.4.3 Original schema was 9 or 10 Conjunctives and 8 or 9 Disjunctives

During early development of these *Simanei Nusach* graphic symbols, a copyright / patent request<sup>236</sup> was prepared in June 2007 (cf. § 5.3.3). Except for changing the *Asterisk* or *Ending Blessing* motif to be a Disjunctive, the original 2007 schema of Disjunctive *Simanim* had not changed. To review: *Double Lines* as "Shorter Medium Pausal", *Triple Lines* as "Longer

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<sup>236</sup> Please see Appendix F-10, "Simanei Nusach with Linkages 2007".

Medium Pausal", *Letter X* as either "Medium Pausal" or "Penultimate", *Dark Circle* as "Strong Pausal", *Dark Square* as "Closing", *Open Circle / Open Square* as "Strong Pausal" and "Closing" respectively in a different *Nusach*, and *Down Arrow* as "Return from Modulation" were all seen to function as Disjunctive motifs. The changes are in the functions of the Conjunctive *Simanim*.

#### **5.4.4 Revised schema is 9 pairs of *Simanim*; more are now Disjunctives**

The revised schema has been used for over a year during "hands-on" teaching in workshops and online courses. The first step in refining the original system functions was a review of the above-mentioned literature on the general subject of *Nusach HaT'fillah* and its modal musical motifs. The second step was making decisions about which set of "general terms" in this field were most descriptive of the syntax functions portrayed by these modal musical motifs.

The result of this study was the following "general set" of musical motif terms: "Openings", "Continuations", Intermediates", "Modulations", "Pausals", "Penultimates", and "Closings". This was refined to include two types of "Intermediates", "Extensions" and "Elaborations", and two more types of "Pausals", namely "Strong Pausals" and "Weak Pausals". This latter term was changed to "Medium Pausals" in 2012, because the six "dual-function" symbols are all "Weak Pausals" when they function as Disjunctives.

#### **5.4.5 In revised schema, some *Simanim* can be Conjunctives or Disjunctives**

The largest change in the *Simanei Nusach* between 2007 and 2012 was the realization that some "Linkage" motifs – Continuations, Extensions, Elaborations, and Modulations – function as either Conjunctive (Joining) musical phrases, or as Disjunctive (Separating) musical phrases. This is different from the *Ta'amei HaMikra* symbols for punctuation and chanting the Hebrew Bible. Trope are either Conjunctives or Disjunctives, and that structure delineates the levels of punctuation. *Simanei Nusach* are on *phrases* within Jewish liturgy, and the syntax of Hebrew liturgy is not as clear-cut as that of the Bible. Thus six of the "Linkage" graphic symbols now have either a Conjunctive or Disjunctive function, as needed to phrase the texts.

Further analysis of the *Simanim* for this thesis resulted in complete connections between the functions of the 18 new *Simanei Nusach* and the 1200-year-old *Ta'amei HaMikra* (Trope) of the Tiberian Masoretes<sup>237</sup>. For the *Opening* Conjunctives, *Dark Triangle* is like *Mapach* and *Open Triangle* is like *Kadma*. The "Linkage" motifs function as either Conjunctives or Disjunctives.

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<sup>237</sup> Please see Appendices F-5, "*Simanei Nusach* with Linkages - 2012", and F-12, "S. N. with Trope - 2012".

For *Continuations*, *Left Arrow* is like *Munach* and *Hook* is like *Mer'cha*. For the two *Extensions*, *Tilde* is like *Pashta* and *Infinity* is like *Munach L'Garmeih*. For the two *Elaborations*, *Upward "U"* is like *Pazeir* and *Downward "U"* is like *T'lisha G'dolah*. For the *Modulations*, *Up Arrow* is like *Zarka* and *Down Arrow* is like *Segol*.

The end result of these revisions is a new way of thinking about these 18 graphic symbols that represent modal musical motifs. Rather than "half Conjunctive and half Disjunctive", these symbols now fall into nine pairs. Half of the symbols still represent Disjunctive musical motifs, but only three of the other nine are always Conjunctives (*Dark Triangle*, *Open Triangle*, and *Up Arrow*). The other six (once only Conjunctives) are now able to function in either a Conjunctive or a Disjunctive manner for any given musical motif on a given phrase of liturgical text.

## **5.5 Use of *Simanei Nusach* in new educational software**

This final Section of this final Chapter will show the steps that are involved in applying the graphic symbols of *Simanei Nusach* to the educational software in which they are being used. Among the decisions that must be made are: what modal musical motifs should be assigned to which *Simanim*, where are the phrase-breaks in the liturgical text, how can word accents and details of Hebrew grammar be shown through the notes of the modal musical motifs, what key should be used for the music notation to minimize accidentals (sharps and flats) and ledger lines, and how can the musical motifs and the graphic symbols express the meaning of the liturgy text?

### **5.5.1 Liturgy is “stacked” by phrases and *Simanei Nusach* are assigned**

Hebrew "phrase-marking" in Jewish prayerbooks was discussed above<sup>238</sup>. When new prayer-texts are sent to this author for musical notation and assignment of graphic symbols, the first task is to review the text to see if it came "already stacked" into logical phrases. If the phrases are not already set, then their "word-wrap" can be modified by use of the MCW computer code discussed above. If modifications should be made to an Orthodox Hebrew prayer-text or its English translation (to make it gender-neutral), that can also be done using the MCW coding.

In a new paragraph or section of liturgy, assigning the *Simanim* symbols to Hebrew phrases happens in one of two ways. It is efficient to notate the music as it is commonly chanted, then derive modal musical motifs from the music notation. By examining the phrasing functions of these motifs, the next step is to decide which musical motifs are represented by which graphic

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<sup>238</sup> Discussed in Section 5.2.1 above.

symbol of *Simanei Nusach*. The other way of assigning graphic symbols is to first examine the phrases within the Hebrew prayer-text, decide which phrases need "Disjunctive" *Simanei Nusach* that have various levels of "pausal power", and then fill in the other modal musical motifs.

### **5.5.2 Application of motif symbols depends on syntax functions in text**

As of late 2012, over 1,200 separate prayers have been notated in written music, with their *Simanei Nusach* symbols representing modal musical motifs in over 20 modes and sub-modes of *Nusach HaT'fillah*. The number of prayers is so large because each prayer has been prepared for Orthodox, Conservative, Reform, and Chassidic versions of its text and music motifs. This is (so far) only for the *Shabbat* and Weekday worship services; when the High Holy Days and Festivals are completed, there will likely be over 1,000 additional prayers.

The process of examining the Hebrew text for its phrases, notating those phrases as strings of music notes, changing those strings of notes into modal musical motifs, and assigning the *Simanei Nusach* graphic symbols has provided a new view into the content and structure of Jewish liturgy. It is clear that Jewish Liturgical Chant is *logogenic*, with phrasing and accents of the Hebrew sacred texts providing the basis for the modal musical motifs of the chant. It is also clear that one function of these modal motifs is to punctuate and explicate these texts.

### **5.5.3 Notation of liturgical music and assigning of *Simanei Nusach***

Some questions are asked before any liturgical music is notated. "What musical mode of *Nusach HaT'fillah* is usually chanted for this liturgical occasion, for this time of day, and for this section of the worship service?" "Are there text passages that would be usually sung with a congregational melody rather than chanted with the modal motifs of *Nusach HaT'fillah*?" "Are Hebrew phrases in this section of liturgy somewhat short or particularly long?" "Are musical motifs chanted on this liturgical occasion *basic* (such as on Weekdays) or more *elaborate* (such as on *Shabbat* or Festivals)?" "What are the most common modal musical motifs<sup>239</sup> chanted for this section of the liturgy?" "Which musical motifs are appropriate for lay leaders to learn?" "Do the basic modal musical motifs flow logically to express the text phrasing and meaning?"

A single-level line of musical notes is put onto the music staff, rests are added to indicate phrasing, and accented notes are lengthened by adding a dot. This single-level line of music notes is changed into modal musical motifs for that prayer using keystrokes to raise and lower

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<sup>239</sup> Please see Appendix F-7 for a "screen-shot" of the *Tefillah Trainer*™ software.

notes within the music staff, and to add accidentals (sharps and flats) as needed. The "key" is chosen so that most of the musical motifs fit on the music staff lines, with minimal ledger lines.

Finally, the graphic symbols of the *Simanei Nusach* are "pasted in" at the beginning of each modal motif in the music, and they appear in the same place in the Hebrew text. Every attempt is made to avoid repeating the same note on consecutive "cadences" (Pausals), and to ensure a "smooth flow" from one musical motif to the next<sup>240</sup>.

#### **5.5.4 Functionality of graphic symbols for music readers and non-readers**

Whether or not a person who is learning to chant Jewish prayers reads notated music, there is still the issue of addressing the Hebrew text to communicate its meaning to the congregation. Unless one is fluent in Hebrew as a second language, chances are that some visual clues for the phrasing would be quite useful. This is the main functionality of *Simanei Nusach* that works equally well for music readers and those who do not read music.

There are two crucial ways in which Trope and *Simanim* are similar. The 27 Trope symbols are divided into 19 Disjunctives ("Separators") and 8 Conjunctives ("Joiners"), and these same categories are pertinent to the *Simanim*. There are nine *Simanim* that are always Disjunctives, three that are always Conjunctives, and six that can function either way (depending on the syntax of the text and the flow of the modal musical motifs). These Disjunctive / Conjunctive functions are the basis of the "punctuation" or "phrasing" function that is similar in both sets of symbols.

Another way in which *Ta'amei HaMikra* and *Simanei Nusach* are similar is that a single set of 27 Trope or 18 *Simanim* symbols can be chanted in many different ways. Each type of Jewish community worldwide has six ways of chanting Biblical Trope for six types of Biblical books. So far there are a dozen different ways of chanting the 18 *Simanim* for various times, occasions, and sections of the Jewish liturgy. However, the punctuation functions of the symbols remain the same even as the musical motifs change, both for Biblical Trope and liturgical *Simanim*.

More analysis can be done on these *Simanei Nusach* graphic symbols, in terms of semiotics and musical semantics, and as the study of modal musical motifs in Jewish ethnomusicology. There are also other related fields of study listed below in the Summation under the category of Assumptions and Limitations. There is much material on this subject to engage this author for years to come – "May it come to pass" in the future.

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<sup>240</sup> Please see Appendices F-8, "Psalm 92 Text ..." and F-9, "*Hashkiveinu* Music" for the uses of *Simanei Nusach*.

## Conclusion to Chapter 5

Chapter 5 has applied the discussions of the previous four chapters to a detailed analysis of the *Simanei Nusach* Symbols of Prayer-chant. A comparison was made between the functions of the *Ta'amei HaMikra* (Trope) of Biblical Cantillation and the functions of these new *Simanim*. There are logical phrases in the text of Jewish liturgy that can be identified by the chanting of modal music motifs. Like Biblical Trope, *Simanei Nusach* symbols have logical shapes, and the order of their application to texts helps reinforce the musical line of a given modal chant.

While there are many similarities in function between the 1200-year-old Masoretic Trope and the new *Simanei Nusach* symbols, an important difference is the fact that Trope appear on most words of the Hebrew Bible, while *Simanei Nusach* appear at the beginning of text phrases. This is partly due to the fact that the number of graphic symbols would become unmanageable where there an attempt to have one for each word, and partly from the nature of liturgical chant itself – it flows in somewhat longer phrases than the compact Hebrew text of the Bible.

The last portion of this final chapter was devoted to details on the development and recent revision of these graphic symbols, and to an explanation of how these new graphic symbols are applied to the prayer-texts and modal music of a teaching software program. Comparisons were made symbol-by-symbol between Trope and *Simanim*, and these can be seen as a chart in one of the last Appendix pages. It remains to be seen what the future will bring for the use of these new graphic symbols. According to the adult students who have been using them, they seem to be serving as a useful visual aid for the phrasing and modal motifs of Jewish Liturgical Chant.

## Summation, Appendices, and Bibliography

**Thesis Question** answered:

How can basic modal musical motifs of Jewish Musical Prayer-modes (*Nusach HaT'fillah*) be shown in a new system of graphic symbols, based on the Trope of Biblical Cantillation?

**Musical motifs of Jewish Musical Prayer Modes can be shown through 18 graphic symbols that represent syntactical and musical values in each Prayer Mode (*Nusach HaT'fillah*).**

**Hypothesis** correct (within limitations):

It is possible to represent basic modal musical motifs that are chanted in Jewish liturgy through a system of graphic symbols that reflect the phrasing and meaning of Hebrew liturgical texts.

**Development and implementation of *Simanei Nusach* graphic symbols indicate that it is possible, within the limitations listed below, to represent modal musical motifs of Jewish Liturgical Chant through symbols that reflect the phrasing and meaning of Hebrew texts.**

### Assumptions and Limitations

There are three limitations on the statement just above. The first is that it reflects certain assumptions about the nature of Jewish liturgy, the functions of communal worship, and some characteristics of the lay religious leaders for whom the *Simanei Nusach* graphic symbols were developed. These assumptions were only partially addressed in this thesis, and they provide a limitation on the functionality of the *Simanei Nusach* system of graphic symbols.

The second limitation is that this system of symbols was constructed for the liturgical chant of Eastern European *Ashkenazic Nusach HaT'fillah*, not for the *Sefardic* and *Eidot HaMizrach* traditions. Like the Biblical Cantillation of *Sefardic* and *Eidot HaMizrach* communities, their liturgical chant has fewer motifs, and there may be microtones in the *Eidot HaMizrach* chant. It is likely that only the more basic graphic symbols would be applicable to their liturgical chants.

The third limitation interacts with the first one listed above. Research and analysis were done using the tools of Jewish ethnomusicology and the fields of both semiotics and musical semantics. Additional research and analysis tools are available in other related fields, including social constructivism, linguistic structuralism, and the sociology and psychology of religion.

Social constructivism posits the collaborative creation of a culture of shared artifacts with shared meanings. This is relevant for using new graphic symbols in a religious musical milieu. Saussure's concept of signifier and signified and Chomsky's approach to deep structure were discussed in Section 2.4 above, although neither scholar was mentioned by name. These can be related to "logogenic" chant as described by Curt Sachs, discussed in Section 2.4.4 above.



In the discussion about musical semantics in Section 2.4.3 above, a contrast was drawn between communal prayer as a cognitive act versus as an affective or emotional act. The latter function also informed the discussion of "mood" in Section 4.4.5 above, showing how chanted liturgy traditionally reflects various moods of sacred times. However, there is a third aspect of how worship functions in the Jewish community. Appendix F-2 asks and answers the question "Why pray?" with the concept (among others) of "vertical connections" back through time, and "horizontal connections" to every other Jewish community currently praying at a given time.

This is a sociological phenomenon, and together with cognitive and emotional aspects of Jewish Liturgical Chant, it forms the third function of worship in any Jewish community. The nature of this chant mediates elements of "authenticity" with *past* musical traditions, and it also mediates elements of "commonality" with *other Ashkenazic* congregations worldwide.

The lay religious leaders who study the chanting of Jewish liturgy bring a great variety of backgrounds to that study, and they also have varied goals. Not only do some lay leaders read notated music while others do not, but some plan to actively lead worship while others do not. The *IMUN Program* no longer meets, and the *Simanei Nusach* are now being taught in online courses through Hebrew College to a self-selecting set of adult students. To adequately gauge the effectiveness of these graphic symbols for this variety of student backgrounds and goals, it would be necessary to conduct surveys and interviews, and this is left for future research.



Three general propositions may be drawn from the totality of this thesis. The first is that Hebrew grammar and pronunciation do matter for chanting any sacred text with meaning. The second is that chanting the Hebrew Bible in phrases with Trope symbols is a useful model for chanting Jewish liturgy in phrases. The third is that new graphic symbols representing modal musical motifs seem to help lay leaders learn to chant prayers with good phrasing and meaning, even if they do not read notated music nor understand all the words in the Hebrew liturgical text.

These three propositions lead to a crucial question for this analysis of the *Simanei Nusach* graphic symbols. Are these new graphic symbols functional to help lay leaders become more competent leaders of Jewish worship? Do these new graphic symbols "signify meaning" for the phrasing of Hebrew prayer-texts and for the chanting of *Ashkenazic* modal music motifs? If so, then perhaps there are additional future uses to which these symbols could be put.

In Section 1.1.2 at the beginning of this thesis, seven criteria and characteristics were listed as being necessary for the new *Simanei Nusach* graphic symbols of Jewish Liturgical Chant:

- 1) They must be relevant to all basic musical motifs of liturgical chant
- 2) They must function similarly in all musical modes of *Nusach HaT'fillah*
- 3) They must reflect the phrasing and punctuation of liturgical texts
- 4) They must work in teaching software and online education formats
- 5) They must be placed directly on the Hebrew liturgical texts that are chanted
- 6) Ideally their shape would reflect their motivic musical functions in phrases
- 7) They must be easily learned by lay leaders who do not read notated music

Within limitations, the new graphic symbols seem to be meeting these seven criteria. Here are some specific limitations that inform the functionality for each of these characteristics:

- 1) ... *relevant to all basic musical motifs* = in the *Ashkenazic* tradition, not others (so far)
- 2) ... *function similarly in all musical modes* = they function more easily in some modes
- 3) ... *reflect the phrasing and punctuation* = choices are made based on one interpretation
- 4) ... *work in teaching software and online* = hard to learn many motifs for each symbol
- 5) ... *placed directly on the ... texts that are chanted* = colleagues could make other choices
- 6) ... *shape would reflect their ... functions in phrases* = inconsistent pre- and post-revision
- 7) ... *learned by lay leaders who do not read notated music* = see #4 (same issue for Trope)

The analysis contained in this thesis indicates that the revisions made to the functions of the graphic symbols in Spring 2012 have been appropriate and useful. During an online course on *Shabbat Nusach* in Spring Term 2013, students did not complain that there was a mis-match between the stated functions of several symbols and their actual functions relative to the syntax of the Hebrew liturgical texts. There were comments that the *Simanei Nusach* symbols on some prayers that were notated in 2007 and 2008 did not seem to work as well as more recent prayers, and these issues will be addressed when the *Tefillah Trainer*<sup>TM</sup> software is revised in the future.



Perhaps there are really three "audiences" for *Simanei Nusach* graphic symbols, rather than the two identified in this analysis. According to anecdotal evidence from the adult students who use them, these new symbols seem to meet the original goal of indicating which musical motif is traditionally chanted on which words, especially for those who cannot read notated music. For

this audience, they provide the "V" (Visual) in the goal of approaching all three of the "V-A-K" (Visual-Auditory-Kinesthetic) learning modalities.

For those learners who do read notated music, these graphic symbols seem to provide new information about the phrasing of the Hebrew liturgical texts. While student reactions were not incorporated in the writing of this thesis, positive reactions have been expressed during online class discussions and in written course evaluations. Again, there is an extra Visual modality that gives cues on the phrasing of Jewish liturgy for lay leaders who may not have the Hebrew skills to understand everything that they are chanting. There is also the function of a graphic symbol as reminder of a musical motif that one has learned, since a prayerbook does not contain music.

The third possible audience for these graphic symbols might be average "congregants in the pews," if a *prayerbook were printed with these symbols* on the Hebrew texts. If these graphical symbols were consistently printed with the Hebrew of a prayerbook, congregants might begin to see some patterns in the symbols as they hear patterns in the chanting of the Prayer-leader. This might be another avenue to increase "literacy" and interest in the Jewish Liturgy, and it might help to make attendance at worship services more meaningful for congregants.

There is an important bit of introspection that is a direct result of the analysis that was done on these new graphic symbols, and also the process of writing this thesis. Mention was made of the scholarly disagreement about the intentions of the Tiberian Masoretes as they crafted their *Ta'amei HaMikra* for the punctuation, accentuation, and intonation of the Hebrew Bible. Were they reflecting the Oral Tradition that they received, were they establishing for the future their own concept of what the *TaNaKh* text means, or were they doing both simultaneously?

The same question can be asked about the work that this author has been doing since 2005, developing the *Simanei Nusach* graphic symbols and assigning their musical motifs within the Prayer-modes of *Nusach HaT'fillah*. Is this author distilling the learning, teaching, and pulpit experience of 30 years into an authentic *reflection* of the Eastern European Ashkenazic tradition for Jewish Liturgical Chant? Is this author also stating through choices of symbols and modal musical motifs the way that he thinks Jewish liturgy *should be* chanted? Other *Hazzanim* have set their musical ideas in print or recordings – the musical ideas of this *Hazzan* are notated in teaching software and indicated through *Simanei Nusach* symbols. Time will reveal the future!

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## Appendix A – Vocabulary Related to Jewish Sacred Chant

### Sacred and Secular Times

<i>Shabbat</i>	Sabbath, sunset Friday to sunset Saturday; weekly day of rest
<i>Shabbatot</i>	Plural of <i>Shabbat</i> [ see list of "Special <i>Shabbatot</i> " below ]
<i>Chol</i>	Weekday, secular; a "single full day" is sunset to the next sunset
<i>Yom</i>	Literally "day", also "daytime", often in a word-pair " <i>Yom _____</i> "
<i>Chodesh</i>	Literally "month", either 29 or 30 days, starts on the New Moon
<i>Shanah</i>	Literally "year", 12 months with a 13th added 7 times in 19 years
<i>Chag</i>	Plural is <i>Chagim</i> ; Holiday in general, <i>not</i> used for High Holy Days
<i>Mo'ed</i>	Plural is <i>Mo'adim</i> ; Festival, Three Pilgrimage Festivals in the <i>Torah</i>
<i>Z'man</i>	Plural is <i>Z'manim</i> ; Literally "time", often indicates "sacred time"
<i>Ta'anit</i> or <i>Tzom</i>	Fast Day, sunrise to sunset (except <i>Tisha B'Av</i> and <i>Yom Kippur</i> )

### Sacred Occasions in the *Torah*

<i>Shabbat</i>	Plural is <i>Shabbatot</i> ; - see "Sacred and Secular Times" above
<i>Yamim Nora-im</i>	High Holy Days in the Fall; <i>Rosh HaShanah</i> and <i>Yom Kippur</i>
<i>Rosh HaShanah</i>	Jewish New Year in the Fall, for introspection and repentance
<i>Yom Kippur</i>	Day of Atonement in the Fall, for requesting forgiveness of sins
<i>Shalosh Regalim</i>	Three Pilgrimage Festivals: <i>Pesach</i> , <i>Shavuot</i> , and <i>Sukkot</i>
<i>Chol HaMoed</i>	Intermediate Days in the week-long Festivals <i>Pesach</i> and <i>Sukkot</i>
<i>Pesach</i>	Passover, Festival of Freedom in the Spring; Exodus from Egypt
<i>S'firat HaOmer</i>	Daily counting of the 7 weeks / 49 days from <i>Pesach</i> to <i>Shavuot</i>
<i>Shavuot</i>	Festival of Weeks in late Spring; marks Receiving <i>Torah</i> at Sinai
<i>Sukkot</i>	Festival of Booths during Fall Harvest; Forty Years of Wanderings
<i>Sh'mini Atzeret</i>	Eighth Day of Assembly, at end of <i>Sukkot</i> ; pray for rain in Israel
<i>Rosh Chodesh</i>	New Month, one or two days; occurs monthly at the New Moon

### Sacred Occasion *not* in the *Torah*

<i>Elul</i>	Month before <i>Rosh HaShanah</i> ; a <i>Shofar</i> is blown on Weekdays
<i>S'lichot</i>	Penitential prayers on a Saturday night before <i>Rosh HaShanah</i>
<i>Aseret Y'mei T'shuvah</i>	Ten Days of Repentance, <i>Rosh HaShanah</i> to <i>Yom Kippur</i>
<i>Hoshana Rabbah</i>	7th Day of <i>Sukkot</i> , last day of <i>Chol HaMoed</i> ; <i>Lulav</i> processions
<i>Simchat Torah</i>	Joy of the <i>Torah</i> after <i>Sukkot</i> ; finish and restart <i>Torah</i> chant cycle
<i>Chanukkah</i>	Festival of Rededication; marks victory of Maccabees in 164 BCE
<i>Tu BiSh'vat</i>	15th Day of the month <i>Sh'vat</i> ; the New Year of Trees (for tithing)
<i>Purim</i>	Feast of Esther, marks deliverance of Persian Jewry from harm
<i>Lag BaOmer</i>	Literally "33rd Day of the <i>Omer</i> "; a relaxing of religious restrictions
<i>Tish'ah B'Av</i>	9th Day of the month <i>Av</i> ; 25-hour Fast, ancient Temples destroyed
<i>Tu B'Av</i>	15th Day of the month <i>Av</i> ; little-known holiday about earthly love

### Minor Fasts and New Sacred Occasions

<i>Ta'anit Esther</i>	Fast of Esther, a daytime fast during the day before <i>Purim</i>
<i>Ta'anit B'chorim</i>	Fast of the Firstborn, a daytime fast during the day before <i>Pesach</i>
<i>Yom HaShoah</i>	Holocaust Remembrance Day, in memory of Six Million Jews killed
<i>Yom HaZikaron</i>	Israel's Memorial Day, in memory of fallen soldiers in Israel's wars
<i>Yom HaAtzma'ut</i>	Israel Independence Day, honoring establishment of Israel in 1948

<i>Yom Y'rushalayim</i>	Jerusalem Day; Jerusalem was reunited during 1967 Six Day War
<i>Shiv'a Asar b'Tammuz</i>	17th of month <i>Tammuz</i> ; Romans breached Jerusalem's walls
<i>Tzom G'dalyah</i>	Fast of Gedalyah, Governor of Judea before the Babylonian Exile
<i>Asarah b'Tevet</i>	10th Day of the month <i>Tevet</i> ; Babylonia began siege of Jerusalem

### Special *Shabbatot* through the year

<i>Shabbat Rosh Chodesh</i>	Sabbath that is also the New Month; includes <i>Hallel</i> Psalms
<i>Shabbat M'varchim</i>	Sabbath before a <i>Rosh Chodesh</i> ; announcement of New Month
<i>Shabbat Shuvah</i>	Sabbath of Return, between <i>Rosh HaShanah</i> and <i>Yom Kippur</i>
<i>Shabbat Chol HaMoed</i>	Sabbath during the five Intermediate Days of <i>Sukkot</i>
<i>Shabbat Chanukkah</i>	Sabbath during week-long holiday of <i>Chanukkah</i> ; with <i>Hallel</i>
<i>Shabbat Shirah</i>	<i>Song of the Sea</i> (Ex. 15) and <i>Song of Deborah</i> (Judg. 5) chanted
<i>Shabbat Sh'kalim</i>	Sabbath before <i>Purim</i> when Ex. 30 is chanted, about a "head-tax"
<i>Shabbat Zachor</i>	Sabbath just before <i>Purim</i> when Dt. 25 is chanted, about Amalek
<i>Shabbat Parah</i>	Sabbath before <i>Pesach</i> when Num. 19 is about the "red heifer"
<i>Shabbat HaChodesh</i>	Sabbath before <i>Pesach</i> when Ex. 12 is about the "First Month"
<i>Shabbat HaGadol</i>	Sabbath just before <i>Pesach</i> , with a Prophetic reading about Elijah
<i>Shabbat Chol HaMoed</i>	Sabbath during the four Intermediate Days of <i>Pesach</i>
<i>Shabbat Chazon</i>	Sabbath of Rebuke before <i>Tisha B'Av</i> ; near end of "Three Weeks"
<i>Shabbat Nachamu</i>	Sabbath of Consolation after <i>Tisha B'Av</i> ; begins "Seven Weeks"

### Life Cycle Events at Home and in Synagogue

<i>Y'leidah</i>	Giving birth to a baby girl or a baby boy, and prayers for health
<i>Brit Milah</i>	Circumcision of a baby boy at eight days old, giving of his name
<i>Simchat Bat</i>	New home naming ceremony for a baby girl at one month old
<i>Pidyon HaBen</i>	Redemption of first-born son - purely ceremonial (seldom done)
<i>Bar / Bat Mitzvah</i>	Coming-of-Age ceremony at age 13, chanting Bible and Prayers
<i>Aufruf</i>	Ceremony on a Sabbath before a wedding for a bride and groom
<i>Chatunah</i>	General term for Jewish wedding; <i>Eirusin</i> and <i>Kiddushin</i> combined
<i>Eirusin</i>	Betrothal or Engagement, also first part of Wedding ceremony
<i>Kiddushin</i>	Jewish Wedding ceremony, with blessings, <i>Ketubah</i> , and Ring(s)
<i>R'fu-ah Sh'leimah</i>	Prayers for complete healing, especially <i>Mi SheBeirach</i> prayer
<i>Kavod HaMeit</i>	Funeral practices: <i>Taharah</i> (washing) and <i>Tachrichim</i> (shrouds)
<i>K'vurat HaMeit</i>	Burial in sanctified ground, preferably within 24 hours of death
<i>Shiva</i>	Seven-day period of intense mourning, with services in the home
<i>Sh'loshim</i>	Thirty days of less severe mourning, back to work but no parties
<i>Yahrtzeit</i>	Anniversary of death, marked by Mourners' <i>Kaddish</i> and a candle

### Rituals at Home and in Synagogue

<i>Hadlakat Neirot</i>	Lighting the <i>Shabbat</i> or Festival candles before sunset at home
<i>M'varchim Y'ladam</i>	Blessing sons and daughters, especially in <i>Shabbat</i> Eve rituals
<i>Kiddush L'Shabbat</i>	Blessing the evening or day of <i>Shabbat</i> over wine or grape juice
<i>N'tilat Yadayim</i>	Ritual handwashing before eating bread, particularly on <i>Shabbat</i>
<i>Birkat HaLechem</i>	The <i>HaMotzi Lechem</i> blessing over bread that begins a full meal
<i>Z'mirot</i>	Songs sung at the <i>Shabbat</i> table during the three leisurely meals
<i>Birkat HaMazon</i>	Grace After meals, four paragraphs chanted (with some additions)
<i>Sheva B'rachot</i>	Additional prayers at wedding meal, also chanted under a <i>Huppah</i>

<i>Se-uda Sh'lishit</i>	Third meal on <i>Shabbat</i> afternoon, with quiet songs and study
<i>Havdalah</i>	Separation ceremony at end of <i>Shabbat</i> ; braided candle & spices
<i>K'ri-at haTorah</i>	Chanting from the <i>Torah</i> scroll, followed by a Prophetic <i>Haftarah</i>
<i>T'ki-at Shofar</i>	Blowing a ram's horn (or an antelope horn) during <i>Rosh HaShanah</i>
<i>Tashlich</i>	Ceremony on <i>Rosh HaShanah</i> of "throwing away sins" into water
<i>Na-anu-im</i>	Waving <i>Lulav</i> -and- <i>Eetrog</i> set in all directions during <i>Sukkot</i> prayers
<i>Hoshanot</i>	Processions near end of <i>Sukkot</i> services with <i>Torah</i> and <i>Lulavim</i>
<i>Hakafot</i>	Seven times carry and dance with <i>Torah</i> scrolls on <i>Simchat Torah</i>
<i>Hadlakat Neiroi</i>	Lighting the <i>Hanukkah</i> candles for eight nights; a family gathering
<i>Seder L'Tu BiSh'vat</i>	Ritual meal for <i>Tu BiSh'vat</i> , based on 7 species of Israeli produce
<i>Mishlo-ach Matanot</i>	Sharing gifts of <i>Hamentashen</i> and food in celebration of Purim
<i>B'dikat Chameitz</i>	Search for leavened foods after the house is cleaned for Pesach
<i>Seder L'Pesach</i>	Passover <i>Seder</i> with ritual foods, retelling of Exodus from Egypt
<i>Bikkurim</i>	First Fruits, a harvest ceremony in some synagogues and in Israel

### Ritual Objects in Synagogue and at Home

<i>Sefer Torah</i>	<i>Torah</i> scroll, the Five Books of Moses handwritten on parchment
<i>Rimonim / Keter</i>	Silver ornaments on top of a <i>Torah</i> scroll, usually with small bells
<i>Choshen \Yad</i>	Silver breastplate on a covered <i>Torah</i> scroll, and reading pointer
<i>Me'il / Avnet</i>	Cloth mantle over <i>Torah</i> Scroll, and cloth binder or belt for scroll
<i>M'gillat Esther</i>	Book of Esther handwritten on a parchment scroll, in a cylinder
<i>Shulchan</i>	Table on the <i>Bimah</i> (platform) upon which the <i>Torah</i> is chanted
<i>Amud</i>	Smaller podium at which prayers are led and sermons are given
<i>Aron HaKodesh</i>	Cabinet (usually built-in) in which the <i>Torah</i> Scrolls are protected
<i>Ner Tamid</i>	Eternal Light (over the Ark / Aron HaKodesh) always kept burning
<i>Parochet</i>	Curtain in front of the <i>Torahs</i> in an Ark, usually inside the doors
<i>Huppah</i>	Wedding canopy, may be stationary or portable, for weddings only
<i>Mizrach</i>	Plaque on eastern wall, for which way to pray towards Jerusalem
<i>Menorah</i>	Seven-branch candelabrum near Ark, ancient symbol of Judaism
<i>Degel Yisrael</i>	Flag of the State of Israel, often in a sanctuary with a national flag
<i>M'zuzah</i>	Small case on doorpost with handwritten parchment of Deut. 6:4-9
<i>Luach</i>	Religious calendar in book form or wall-poster form, listing rituals
<i>Pushka</i>	Yiddish term for <i>Tzedakah</i> (Charity) Box in synagogue and homes
<i>Shofar</i>	Ram's horn (or antelope horn) blown in <i>Elul</i> and <i>Rosh HaShanah</i>
<i>Sukkah</i>	Outdoor temporary booth for meals during <i>Sukkot</i> Harvest Festival
<i>Lulav</i>	Palm frond bound together with 2 willow twigs and 3 myrtle twigs
<i>Eetrog</i>	Citron from the Middle East, waved with the <i>Lulav</i> during <i>Sukkot</i>
<i>Hanukkiah</i>	Nine-branch candle-holder (also called a <i>Menorah</i> ) for <i>Hanukkah</i>
<i>Grager/Ra'ashan</i>	Yiddish and Hebrew for a noisemaker used during <i>Purim</i> reading
<i>Kara-ah</i>	Segmented plate used during ritual portion of a Passover <i>Seder</i>
<i>Kos Yayin</i>	decorated wine cup (often silver) for <i>Kiddush</i> prayer on occasions
<i>B'samim</i>	decorated container for sweet-smelling spices used for <i>Havdalah</i>
<i>Neirot Shabbat</i>	Two or more candles lit before sunset of Fridays, lasting 4+ hours
<i>Neir Havdalah</i>	Braided candle used for <i>Havdalah</i> ceremony, representing " <i>Chol</i> "
<i>Neirot Hanukkah</i>	small candles lit during Hanukkah celebration, lasting 30+ minutes
<i>Yahrtzeit Licht</i>	Yiddish for candle lit on anniversary of a death, lasting 24+ hours



## Ritual objects worn by a person

<i>Kippah \Yarmulke</i>	Hebrew and Yiddish for a skullcap worn to show respect for God
<i>Tallit \Tzitzit</i>	Rectangular garment with four knotted fringes ( <i>Tzitzit</i> ) in corners
<i>Atarah</i>	Decorated "collar" portion of a Tallit (may have a <i>B'rachah</i> on it)
<i>Arba Kanfot</i>	Undergarment worn by traditional boys and men with four fringes
<i>T'fillin</i>	Leather boxes with parchment strips <sup>241</sup> , worn on arm and forehead
<i>Kittel</i>	White light robe worn by prayer-leader(s) during High Holy Days

## Synagogue Personnel

<i>Rabbi</i>	Spiritual leader and Halachic authority for a specific congregation
<i>Rav / Rebbe</i>	Spiritual leader and authority for an extensive Jewish community
<i>Hazzan</i>	Hebrew for Cantor, professional clergy specializing in Jewish music
<i>Gabbai</i>	Lay leader(s) who help with aspects of Torah Service and worship
<i>Shamash</i>	Lay leader with particular responsibility for books and ritual items
<i>Nasi / Parnas</i>	In some communities, a lay leader who has financial authority
<i>M'nahel / M'nahelet</i>	Hebrew term for a Principal / Director of a Jewish religious school
<i>Moreh / Morah</i>	Hebrew for a male or female teacher or tutor in a religious school
<i>Ba'al Korei / K'riah</i>	Two alternate terms for a male who chants from a <i>Torah</i> scroll
<i>Ba'alat Korei / K'riah</i>	Two alternate terms for a female who chants from a <i>Torah</i> scroll
<i>Ba'al T'fillah</i>	Any male person leading the Hebrew chanting of Jewish liturgy
<i>Ba'alat T'fillah</i>	Any female person leading the Hebrew chanting of Jewish liturgy
<i>Shali-ach Tzibbur</i>	Literally "Emissary for the Congregation", leader of prayer service
<i>Ba'al Shacharit</i>	Person who leads the <i>Shacharit</i> service for the High Holy Days
<i>Ba'al T'ki-ah</i>	Person who sounds the <i>Shofar</i> during High Holy Days services

## Jewish Sacred Books

<i>Pentateuch</i>	Five Books of Moses in book form, with Prophetic <i>Haftarah</i> readings
<i>Chumash</i>	Same as <i>Pentateuch</i> , plural is <i>Chumashim</i> , in Hebrew and English
<i>TaNa"Kh</i>	Hebrew Bible in book form, acronym for <i>Torah &amp; N'vi-im &amp; K'tuvim</i>
<i>N'vi-im</i>	Prophetic books in middle portion of <i>TaNaKh</i> , source of <i>Haftarot</i>
<i>K'tuvim</i>	Writings in last portion of <i>TaNaKh</i> , with Psalms and Festival books
<i>Chameish M'gillot</i>	Five Scrolls / Books in <i>K'tuvim</i> , chanted on major & minor holidays
<i>RaKa"Sh</i>	<i>Ruth / Kohelet / Shir HaShirim</i> , chanted on 3 Pilgrimage Festivals
<i>Tikkun</i>	Book with parallel columns of <i>Torah</i> in <i>Chumash</i> and <i>STa"M</i> font
<i>Midrash</i>	Exegetical commentaries on the <i>Torah</i> and other Biblical books
<i>Mishnah</i>	Updated laws compiled in Israel from c. 200 B.C.E. to c. 200 C.E.
<i>Gemara</i>	Commentaries on the laws of the <i>Mishnah</i> , compiled in the Talmud
<i>Talmud</i>	<i>Mishnah</i> and <i>Gemara</i> together, compiled in Babylonia c. 500 C.E.
<i>Septuagint</i>	Greek translation of Hebrew Bible, compiled over several centuries
<i>Targum</i>	Aramaic translation of Hebrew Bible, chanted in some communities
<i>Mikrot Gedolot</i>	Hebrew <i>Chumash</i> text with several commentaries, including <i>Rashi</i>
<i>Pirkei Avot</i>	"Sayings of the Fathers", chapters of <i>Mishnah</i> read during <i>Shabbat</i>
<i>Siddur</i>	Literally "Order", prayerbook for Weekdays, <i>Shabbat</i> , and Festivals
<i>Siddurim</i>	Plural of <i>Siddur</i> , facing pages of Hebrew and English or all Hebrew
<i>Machzor</i>	Literally "Cycle", prayerbook for High Holy Days (and Festivals)

<sup>241</sup> Four *Torah* passages are: Deut. 6: 4-9, & 11: 13-21, and Ex. 13: 1-10 & 13: 11-16.

<i>Machzorim</i>	Plural of <i>Machzor</i> , in a set of 5 for High Holy Days and Festivals
<i>Haggadah</i>	Literally "Retelling", booklet with ritual texts of the Passover <i>Seder</i>
<i>Shulchan Aruch</i>	Law Code of 1500's, compiled by Joseph Karo & Moses Isserles
<i>Mishnah Berurah</i>	Law Code of 1800's by Hafetz Hayyim, based on <i>Shulchan Aruch</i>

### Structure of Jewish Liturgy Sections

<i>Arvit</i>	Evening service, also called " <i>Ma'ariv</i> "; ideally chanted after sunset
<i>Birchot HaShachar</i>	First part of Preliminary service for <i>Shacharit</i> ; blessings and texts
<i>P'sukei D'Zimra</i>	Second part of <i>Shacharit</i> Preliminary service; Psalms and texts
<i>Shacharit</i>	Morning service; term for <i>entire</i> morning and for a <i>specific</i> section
<i>Sh'ma uVirchoteha</i>	<i>Sh'ma</i> Section, chanted only during <i>Arvit</i> and <i>Shacharit</i> services
<i>Amidah</i>	Standing silent prayers, repeated aloud in <i>Shacharit</i> and <i>Minchah</i>
<i>Sh'moneh Esrei</i>	Weekday <i>Amidah</i> , with 13 petitionary prayers in the middle section
<i>Bakashot</i>	Petitionary prayers in Weekday <i>Amidah</i> , personal and communal
<i>T'fillat Sheva</i>	<i>Shabbat</i> and Festival <i>Amidah</i> , with a <i>single</i> (long) central prayer
<i>Hallel</i>	Psalms 113 - 118, chanted on <i>Shalosh R'galim</i> and at other times
<i>Hotza'at HaTorah</i>	Removing the <i>Torah</i> Scroll(s) from the Ark, and <i>Torah</i> procession
<i>K'ri-at HaTorah</i>	Chanting from the <i>Torah</i> Scroll(s) and the <i>Haftarah</i> Prophetic text
<i>Hachnasat HaTorah</i>	<i>Torah</i> procession, and returning the <i>Torah</i> Scroll(s) to the Ark
<i>Musaf</i>	Additional service in traditional liturgy; extra sacrifice in the Temple
<i>Minchah</i>	Afternoon service, ideally chanted before sunset; Temple sacrifice
<i>Kabbalat Shabbat</i>	Preliminary service for Friday evening; Psalms 95-99 and 92-93
<i>Mei-ein Sheva</i>	Section of four prayers after the end of the Friday evening <i>Amidah</i>
<i>Piyyutim</i>	Religious poems (often acrostics) added to the core liturgy texts
<i>Yizkor</i>	Memorial prayers on <i>Yom Kippur</i> and Three Pilgrimage Festivals
<i>S'lichot</i>	Section of penitential prayers, repeated throughout <i>Yom Kippur</i>
<i>Vidui</i>	Core prayers in <i>S'lichot</i> penitential prayers, during <i>Yom Kippur</i>
<i>N'ilah</i>	Extra Concluding service, chanted only at the end of <i>Yom Kippur</i>
<i>Tachanun</i>	Penitential prayers near end of Weekday <i>Shacharit</i> and <i>Minchah</i>
<i>Kinot</i>	Elegies / mournful poems and songs chanted softly on Tisha B'Av

### Evening Prayers - *Chol & Shabbat*

<i>L'cha Dodi</i>	<i>Kabbalat Shabbat</i> acrostic hymn by Shlomo Alkabetz, 1500's C.E.
<i>Bar'chu / Baruch</i>	"Call to Worship", statement by prayer-leader and cong. response
<i>HaMa'ariv Aravim</i>	"Creation" paragraph at beginning of <i>Sh'ma uVirchoteha</i> section
<i>Ahavat Olam</i>	"Revelation" paragraph just before the three paragraphs of <i>Sh'ma</i>
<i>K'ri-at Sh'ma</i>	Deut. 6:4-9, Deut. 11:11-13 on "obey", Num. 15:37-41 on "fringes"
<i>V'ahavta</i>	Deut. 6:4-9 on "love God", "teach God's Words", and "as a symbol"
<i>Emet VeEmunah</i>	"Redemption" paragraph after <i>Sh'ma</i> , "Exodus" with " <i>Mi Chamocha</i> "
<i>Hashkiveinu</i>	Second prayer after <i>Sh'ma</i> in evening only, on "protection at night"
<i>V'sham'ru</i>	Ex. 31:16-17 on " <i>Shabbat</i> as a symbol of Covenant and Creation"
<i>Hatzi Kaddish</i>	Aramaic prayer that concludes <i>Sh'ma</i> Section and starts <i>Amidah</i>
<i>Avot / Imahot</i>	God Who was in relationship with our Patriarchs (and Matriarchs)
<i>G'vurot</i>	God Who does deeds of sustenance, healing, and deliverance
<i>K'dushat HaShem</i>	God's Holiness, silent in traditional evening services, aloud in some
<i>K'dushat HaYom</i>	Central part of <i>Shabbat Amidah</i> , reference to Creation (Gen. 2:1-3)
<i>Avodah</i>	First of three ending <i>Amidah</i> prayers, asking God to accept prayer

<i>Ya'aleh v'Yavo</i>	Seasonal addition to <i>Avodah</i> on <i>Rosh Chodesh</i> and <i>Chol HaMoed</i>
<i>Hoda'ah</i>	Middle of three ending <i>Amidah</i> prayers, thanking God for miracles
<i>Al HaNissim</i>	Seasonal addition to <i>Hoda'ah</i> for <i>Hanukkah</i> and <i>Purim</i> deliverance
<i>Birkat Shalom</i>	Prayer for peace at the end of every <i>Amidah</i> , short form in evening
<i>Elohai N'tzor</i>	Meditation of a Talmudic Rabbi after <i>Amidah</i> , with " <i>Oseh Shalom</i> "
<i>Kaddish Shaleim</i>	Aramaic Doxology at end of a major section within Jewish liturgy
<i>Kiddush</i>	Prayer over wine or grape juice signifying the holiness of <i>Shabbat</i>
<i>S'firat HaOmer</i>	Daily counting of the seven weeks between <i>Pesach</i> and <i>Shavuot</i>
<i>Aleinu</i>	Prayer ending every service, both particularistic and universalistic
<i>Kaddish Yatom</i>	Mourners' <i>Kaddish</i> , said on <i>Yahrtzeit</i> and during mourning period
<i>Yigdal</i>	Closing hymn on <i>Shabbat</i> , based on Maimonides' Articles of Faith

### **Morning Prayers - *Chol & Shabbat***

<i>Birchot HaShachar</i>	Morning blessings chanted at beginning of first Preliminary Service
<i>Baruch SheAmar</i>	Starts second Preliminary Service, "We will praise with Psalms"
<i>Ashrei</i>	Psalm 145 (& extra verses), an important <i>P'sukei D'Zimra</i> Psalm
<i>Yishtabach</i>	Concludes second Preliminary Service, "We praised with Psalms"
<i>Hatzi Kaddish</i>	Aramaic prayer that ends one Section and starts the next section
<i>Bar'chu / Baruch</i>	"Call to Worship", statement by prayer-leader and cong. response
<i>Yotzer Or</i>	"Creation" paragraph at beginning of <i>Sh'ma</i> section, about "light"
<i>Ahavah Rabbah</i>	"Revelation" paragraph just before the three paragraphs of <i>Sh'ma</i>
<i>K'ri-at Sh'ma</i>	Deut. 6:4-9, Deut. 11:11-13 on "obey", Num. 15:37-41 on "fringes"
<i>V'ahavta</i>	Deut. 6:4-9 on "love God", "teach God's Words", and "as a symbol"
<i>Emet v'Yatziv</i>	"Redemption" paragraph after <i>Sh'ma</i> , "Exodus" with " <i>Mi Chamocha</i> "
<i>Avot / Imahot</i>	God Who was in relationship with our Patriarchs (and Matriarchs)
<i>G'vurot</i>	God Who does deeds of sustenance, healing, and deliverance
<i>K'dushat HaShem</i>	God's Holiness, responsive chant with congregation, "Holy Holy ..."
<i>K'dushat HaYom</i>	Central part of <i>Shabbat Amidah</i> , refers to Revelation, Ex. 31:16-17
<i>Avodah</i>	First of three ending <i>Amidah</i> prayers, asking God to accept prayer
<i>Ya'aleh v'Yavo</i>	Seasonal addition to <i>Avodah</i> on <i>Rosh Chodesh</i> and <i>Chol HaMoed</i>
<i>Hoda'ah</i>	Middle of three ending <i>Amidah</i> prayers, thanking God for miracles
<i>Al HaNissim</i>	Seasonal addition to <i>Hoda'ah</i> for <i>Hanukkah</i> and <i>Purim</i> deliverance
<i>Birkat Kohanim</i>	Priestly Blessing from Num. 6:24-26, only during <i>Amidah</i> Repetition
<i>Birkat Shalom</i>	Prayer for peace at the end of every <i>Amidah</i> , long form in morning
<i>Elohai N'tzor</i>	Meditation of a Talmudic Rabbi after <i>Amidah</i> , with " <i>Oseh Shalom</i> "
<i>Kaddish Shaleim</i>	Aramaic Doxology at end of a major section within Jewish liturgy
<i>Birchot HaTorah</i>	Blessings chanted by an honoree who is called for a <i>Torah Aliyah</i>
<i>Birchot HaHaftarah</i>	Blessings chanted by the " <i>Maftir</i> " honoree before/after a <i>Haftarah</i>
<i>Birkat HaGomeil</i>	Blessing said by survivor of a dangerous situation, cong. response
<i>Mi Shebeirach</i>	Blessing for <i>Torah Aliyah</i> honorees and asking healing for the sick
<i>Eil Malei Rachamim</i>	Prayer asking God's care for departed souls during a <i>Yahrtzeit</i>
<i>Birkat HaChodesh</i>	Monthly prayer announcing the day(s) when the next month begins
<i>Aleinu</i>	Prayer ending every service, both particularistic and universalistic
<i>Shir Shel Yom</i>	"Psalm for the Day", said either at end of service or in Preliminary
<i>Kaddish Yatom</i>	Mourners' <i>Kaddish</i> , said on <i>Yahrtzeit</i> and during mourning period
<i>Adon Olam</i>	Closing hymn on <i>Shabbat</i> , God's Vastness and God's Immanence

## Jewish Holiday Individual Prayers

<i>T'fillat Tal</i>	<i>Piyyut</i> chanted on <i>Pesach</i> asking that dew fall on Israel in summer
<i>Akdamut</i>	Long acrostic <i>Piyyut</i> chanted on <i>Shavuot</i> before the <i>Torah</i> reading
<i>T'ki-at Shofar</i>	Sounding the <i>Shofar</i> daily (except <i>Shabbat</i> ) during the month <i>Elul</i>
<i>Kol Nidrei</i>	Legal formula at beginning of <i>Yom Kippur</i> regarding vows not kept
<i>Untaneh Tokef</i>	Highlight of High Holy Days <i>Musaf</i> , about God determining our fate
<i>Malchuyot</i>	Sovereignty verses and prayers in <i>Rosh HaShanah Musaf Amidah</i>
<i>Zichronot</i>	Remembrance verses / prayers in <i>Rosh HaShanah Musaf Amidah</i>
<i>Shofrot</i>	Shofar-theme verses / prayers in <i>Rosh HaShanah Musaf Amidah</i>
<i>Avinu Malkeinu</i>	Penitential verses chanted on High Holy Days (and on Fast Days)
<i>Avodat HaCohen</i>	Temple Service of the High Priest in <i>Yom Kippur Musaf Amidah</i>
<i>Ashamnu</i>	<i>Vidui</i> , central part of forgiveness prayers chanted on <i>Yom Kippur</i>
<i>Al Cheit</i>	Communal chanting of forgiveness prayers, while hitting the chest
<i>Duchenen</i>	Priestly Blessing (Num. 6:24-26) when chanted aloud by <i>Kohanim</i>
<i>N'tilat Lulav</i>	Waving of <i>Lulav</i> and <i>Etrog</i> during <i>Sukkot</i> ; four directions, up, down
<i>Hoshannah</i>	Procession of <i>Torah</i> scroll and <i>Lulavim</i> near end of <i>Sukkot</i> service
<i>T'fillat Geshem</i>	<i>Piyyut</i> chanted on <i>Sh'mini Atzeret</i> asking for winter rains in Israel
<i>Atah Horeita</i>	Verses chanted on <i>Simchat Torah</i> for <i>Hakafot</i> , <i>Torah</i> processions
<i>HaNeirot Hallalu</i>	Passage chanted during <i>Hanukkah</i> candle-lighting about the ritual
<i>Maoz Tzur</i>	Poem chanted on <i>Hanukkah</i> , often during evening candle-lighting

## Additional Synagogue Terminology

<i>Beit K'nesset</i>	Hebrew for "Synagogue" (Greek <i>Synagoga</i> ), "House of Assembly"
<i>Ashkenazi</i>	Traditions of Jews from Central and Eastern European ancestry
<i>Sefardi</i>	Traditions of Jews from pre-1492 Spanish (& Middle East) ancestry
<i>Eidot HaMizrach</i>	Communities of the East: North Africa, Middle East, Central Asia
<i>Minyan/Minyanim</i>	Quorum of ten adult Jews for chanting <i>Torah</i> and complete service
<i>B'rachah/B'rachot</i>	Liturgical formula said for thanking God or on doing a ritual action
<i>Mitzvah/Mitzvot</i>	A commanded action, a good deed, fulfilling a ritual, or an honor
<i>Halachah/Halachot</i>	The system of Jewish laws that regulates all aspects of daily living
<i>Minhag/Minhagim</i>	Customs that often have almost the same authority as Jewish laws
<i>Bimah</i>	Raised area (in front or in the center) where service is conducted
<i>Sefer / S'farim</i>	Book(s) in general, usually sacred books, printed or in scroll form
<i>Dikduk</i>	Grammar of Classical Hebrew, needed for proper meaning of texts
<i>D'var Torah</i>	Exegetical lesson specifically related to the weekly <i>Torah</i> Portion
<i>P'shat / Drash</i>	Plain meaning or translation, versus underlying meaning in a text
<i>Simchah</i>	A happy occasion, usually associated with a happy life-cycle event
<i>Chiyyuv</i>	Level of obligation or privilege for a <i>Torah</i> honor or leading worship
<i>Amein</i>	Congregational response to a blessing; means "I believe this also"
Masoretic Text	Text of Hebrew Bible with vowels and Trope of Tiberian Masoretes
<i>STa"M</i>	Handwritten text of a scribe for <i>Sifrei Torah</i> , <i>T'fillin</i> , and <i>M'zuzot</i>
<i>Sofer</i>	A trained scribe who writes and corrects <i>Torah</i> scrolls and <i>T'fillin</i>
<i>Pasul</i>	A <i>Torah</i> scroll that has become unfit for use due to damaged texts
<i>Ta'amei HaMikra</i>	Symbols for punctuation, accents, and chant in a printed Bible text
<i>Ta'amei EMe"T</i>	Different Trope for the Poetic Books of Job, Proverbs, and Psalms

## Torah Reading Ritual Terms<sup>242</sup>

<i>Eitz Chayyim</i>	One of the two wooden rollers for the parchment of a <i>Torah</i> scroll
<i>Klaf / Klafim</i>	The parchment on which the <i>Torah</i> text is handwritten with a quill
<i>Lein / Leynen</i>	Yiddish term for chanting the consonantal text from a <i>Torah</i> scroll
<i>Trope \ Trop</i>	English\Yiddish term for Masoretic symbols of Biblical Cantillation
<i>Chironomy</i>	Hand motions of a "helper" to indicate Trope motifs of <i>Torah</i> chant
<i>Sidrah / Parashah</i>	One of the 54 annual <i>Torah</i> portions, or a paragraph section within
<i>Haftarah/Haftarot</i>	Prophetic reading whose theme reflects a Sidrah, or a time period
<i>Arba Parshiyot</i> <sup>243</sup>	Four special Torah readings from before Purim to before Passover
<i>Pasuk / P'sukim</i>	Individual verse(s) of Biblical text, found by Book, chapter, number
<i>Perek / P'rakim</i>	Section(s) of Biblical verses, usually a paragraph within a chapter
<i>Stumah / P'tuchah</i>	Spaces between sections in a handwritten consonantal <i>Torah</i> text
<i>K'ri / K'tiv</i>	A word as it is to be chanted, versus how that same word is written
<i>Parashat HaShavua</i>	The particular <i>Torah</i> Portion (and <i>Haftarah</i> ) for a given <i>Shabbat</i>
Triennial Cycle	Rabbinical Assembly division of <i>Torah</i> into three years of readings
<i>Hakafah</i>	Hebrew term for the procession of <i>Torah</i> scroll(s) during services
<i>Aliyah/Aliyot</i> <sup>244</sup>	Sub-divisions of a Torah reading, with people called up as an honor
<i>Oleh / Olah</i>	Person (male/female) who is called up to chant the <i>Torah</i> blessings
<i>Kohein</i>	Descendant of the ancients High Priests, often given the first <i>Aliyah</i>
<i>Levi</i>	Descendant of other ancient Priests, often given the second <i>Aliyah</i>
<i>Yisrael</i>	A Jewish person who is not a descendant of the Temple Priesthood
<i>Rishon/Sheini</i> <sup>245</sup>	First and second <i>Aliyah</i> to the <i>Torah</i> when not a <i>Kohein</i> or a <i>Levi</i>
<i>Hosafah/Acharon</i>	Extra <i>Aliyah</i> added to a <i>Torah</i> reading / the last extra <i>Aliyah</i> added
<i>Maftir</i>	Repetition of last <i>Torah</i> verses for a person chanting the <i>Haftarah</i>
<i>Chazak ...</i>	"Strength ..." formula chanted by all at the end of a Book of <i>Torah</i>
<i>Hagbahah</i>	Lifting a <i>Torah</i> scroll and displaying the text after all <i>Torah</i> reading
<i>Magbiah</i>	Person who does the ritual of lifting a Torah scroll at end of reading
<i>G'lilah</i>	Binding a <i>Torah</i> scroll with a soft "belt" and covering with a mantle
<i>Goleil/Golelet</i>	Person who does the ritual of binding and covering a <i>Torah</i> scroll
<i>M'chubarim</i>	Combined Torah Portions, up to seven pairs in a 12-month year
<i>Aseret HaDib'rot</i> <sup>246</sup>	Ten Commandments, chanted twice in <i>Torah</i> with elaborate Trope
<i>Shirat HaYam</i>	Song of the Sea in Exodus 15, chanted with a special set of motifs
<i>Masa-ot</i>	"Journeys" in Numbers 33:10-46 with <i>Shirat HaYam</i> melodic motifs
<i>Tochecha</i>	Passage(s) of "curses" in <i>Torah</i> , usually chanted softly and quickly
<i>Chatan Torah</i>	Congregant honored with the final <i>Aliyah</i> of Deut. on <i>Simchat Torah</i>
<i>Chatan B'reishit</i>	Congregant honored with the first <i>Aliyah</i> of Gen. on <i>Simchat Torah</i>
<i>Mafsikim/M'lachim</i>	Two terms for Disjunctive or "Separator" Trope, "lords" or Pausals
<i>M'shartim/M'chabrim</i>	Two terms for Conjunctive or "Joining" Trope, "servants"/ helpers
<i>Ta'amei Elyon</i>	Elaborate "upper" Trope to combine verses in Ten Commandments
<i>Tagim</i>	Decorative "crowns" on several consonants in <i>STa"M Torah</i> script

<sup>242</sup> Additional *Torah* terms may be found under "Ritual Objects" and elsewhere above.

<sup>243</sup> These are listed above under "Special *Shabbatot* through the year".

<sup>244</sup> 3 = Weekday, 4 = New month, 5 = *Rosh HaShanah*, 6 = *Yom Kippur*, 7 = *Shabbat*.

<sup>245</sup> Additional *Aliyot*: *Sh'lishi* = 3rd, *R'vi-i* = 4th, *Chamishi* = 5th, *Shishi* = 6th, *Sh'vi-i* = 7th.

<sup>246</sup> Exodus 20: 2 - 14/17 and Deuteronomy 5: 6 - 18/21, which are not identical texts.

## Jewish Liturgical Chant Terms<sup>247</sup>

<i>Chatimah</i>	The "seal" or summary " <i>Baruch Atah ...</i> " at the end of a prayer text
<i>Matbe-ah Shel T'fillah</i>	Obligatory basic structural elements of traditional Jewish liturgy
<i>Piyyut/Piyyutim</i>	Religious poem added to liturgy structure, often in an acrostic form
<i>Chova / R'shut</i>	Obligatory structural prayers versus permissible additional prayers
<i>Keva / Kavanah</i>	Regular praying of a set liturgy vs. spontaneous devotion in prayer
<i>Tirchat HaTzibbur</i>	An action, noise, or situation that is bothersome for a congregation
<i>Hafsakah</i>	Interruptions during a service section (in <i>Amidah</i> or <i>Sh'ma</i> Section)
<i>Minhag HaMakom</i>	Religious customs of a particular community, carrying great weight
<i>T'fillah/T'fillot</i>	An individual prayer, a prayer section or service, prayer in general
<i>Chazarat HaShatz</i>	Leader's repetition of an <i>Amidah</i> after congregation says it silently
<i>Hechi K'dushah</i>	First three <i>Amidah</i> prayers chanted aloud, then the rest said silently
<i>Nusach HaT'fillah</i>	Musical Prayer-modes showing liturgy structure, mood, & occasion
<i>MiSinai Melody</i>	Prayer melodies from medieval Germany for old, important prayers
<i>Niggun/Niggunim</i>	Song(s) without words, some with syllables, originally by <i>Chassidim</i>
<i>Hazzanut</i>	Cantorial recitatives that "paint meaning of prayers through music"
<i>Melisma</i>	Many notes on one syllable, usually stepwise, a form of elaboration
<i>Cadence</i>	Musical indicator of pause/stop at the end of a phrase or sentence
<i>Acrostic</i>	Poetic text with first letters in alphabetical order or spelling a name
<i>Authentic Mode</i>	Mode whose motifs move from Tonic " <i>Do</i> " to " <i>Do</i> " an octave higher
<i>Plagal Mode</i>	Mode whose motifs move from low " <i>Sol</i> " to " <i>Sol</i> " above Tonic " <i>Do</i> "
<i>Maqam/Makaam</i>	Modes and motifs in Arabic music, usually including microtones

<sup>247</sup> Additional Liturgy terms may be found under "Structure" and elsewhere above.

## Appendix B – Chapter 3-a

### Classical Hebrew for Cantillation and Liturgy

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# Hebrew Alef-Bet

		Name	Shape	Sound	#
	(without Dot)	אֶלֶף	<i>Alef</i>	א	silent 1
	בֵּית <u>Veit</u> ב V	בֵּית	<i>Beit</i>	ב	B 2
		גִּמֶּל	<i>Gimel</i>	ג	G 3
		דָּלֶת	<i>Dalet</i>	ד	D 4
		הֵא	<i>Hei</i>	ה	H 5
		וּו	<i>Vav</i>	ו	V 6
		זַיִן	<i>Zayin</i>	ז	Z 7
		חֵית	<i>Cheit</i>	ח	Ch 8
	(Final forms)	טִית	<i>Teit</i>	ט	T 9
		יּוּד	<i>Yod</i>	י	Y 10
	כֶּף סּוֹפִית	כֶּף	<i>Kaf</i>	כ	K 20
	כּוֹף סּוֹפִית	כּוֹף <u>Chaf</u> כ Ch			
	(without Dot)	לָמֶד	<i>Lamed</i>	ל	L 30
		מֶם	<i>Mem</i>	מ	M 40
	מֶם סּוֹפִית				
	נוּן סּוֹפִית	נוּן	<i>Nun</i>	נ	N 50
	(Final forms)	סָמֶךְ	<i>Samech</i>	ס	S 60
	(without Dot)	עֵיִן	<i>Ayin</i>	ע	silent 70
	פֶּא סּוֹפִית	פֶּא	<i>Pei</i>	פ	P 80
	פּא סּוֹפִית	פּא <u>Ei</u> פ F			
	צָדִי סּוֹפִית	צָדִי	<i>Izadi</i>	צ	Tz 90
	(Final forms)	קוֹף	<i>Kof</i>	ק	K 100
	(Dot on Left)	רֵישׁ	<i>Reish</i>	ר	R 200
	שֵׁין <u>Sin</u> ש S	שֵׁין	<i>Shin</i>	ש	Sh 300
	תּוֹ <u>Tav</u> ת T	תּוֹ	<i>Tav</i>	ת	T 400
	(without Dot)				

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## "Tails"

נ — ג  
N ≠ G

כ — ב  
Ch ≠ V

פ — פ  
K ≠ B

ת — ח  
T ≠ Ch

ז — ו  
Z ≠ V

ר — ד  
R ≠ D

ף — ך  
f ≠ ch

פ — כ  
F ≠ Ch

פ — פ  
P ≠ K

= = = = =

## Lengths

ו — י  
V ≠ Y

ן — ו  
n ≠ V

ך — ד  
ch ≠ D

ק — ה  
K ≠ H

ן — ז  
n ≠ Z

ך — ר  
ch ≠ R

= = = = =

## Widths

ך — ן  
ch ≠ n

כ — נ  
Ch ≠ N

ר — ו  
R ≠ V

= = = = =

## Angles

ס — ם

S ≠ m

מ — ט

M ≠ T

צ — ץ

Tz ≠ silent

ך — ק

ch ≠ K

ן — ף

n ≠ tz

ץ — ע

Tz ≠ silent

## Openings

ס — ט

S ≠ T

מ — ט

M ≠ T

ח — ה

Ch ≠ H

## Dots

פ — פּ

F ≠ P

כ — כּ

Ch ≠ K

ב — בּ

V ≠ B

ת — תּ

T = T

ך — ךּ

k ≠ ch

ש — שׁ

S ≠ Sh

## Rotation

ט — פ

T ≠ F

ת — ב

T ≠ V

כ — ח

Ch = Ch

## 24 English words based on two consonants R & D

(organized alphabetically according to **parts of speech**)

pg. 1 of 2

R a i D	<b>verb</b> - present tense	raid
R a D i o	<b>verb</b> - present tense	radio
R e a D	verb - <b>present</b> tense	read
R e a D	verb - <b>past</b> tense	read
R e D o	verb - present tense	redo
R i D	verb – “remove”	rid
R i D e	<b>verb</b> - present tense	ride
R o D e	verb - past tense	rode
-----		
R e D	adjective - color	red
R e a D y	adjective - description	ready
R e e D y	adjective - quality	reedy
a R i D	adjective - quality	arid
R u D e	adjective - quality	rude
-----		
R a i D	<b>noun</b> - activity	raid
R a D i o	<b>noun</b> - thing	radio
R a D i i	noun - plural “radius”	radii
R a D	<b>noun</b> - dose of radiation	rad
R e e D	noun - thing	reed
R i D e	<b>noun</b> - transportation	ride
R o D	noun - thing	rod
R o a D	noun - thing	road
R o D e o	noun - activity	rodeo
-----		
R a D	<b>exclamation</b> - slang	rad (!)
R o o D	noun - ¼ acre (Brit.)	rood

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**same Spelling, same Sound, different parts of speech = Homonyms**

R a i D	<b>verb</b> - present tense	raid
R a i D	<b>noun</b> - activity	raid
R a D i o	<b>verb</b> - present tense	radio
R a D i o	<b>noun</b> - thing	radio
R i D e	<b>verb</b> - present tense	ride
R i D e	<b>noun</b> - transportation	ride

**different Spelling, same Sound, different Meaning = Homophones**

R e D	<b>adjective</b> - color	red
R e a D	verb - <b>past</b> tense	read
R o D e	<b>verb</b> - past tense	rode
R o a D	<b>noun</b> - thing	road
R e a D	verb - <b>present</b> tense	read
R e e D	<b>noun</b> - thing	reed

**same Spelling, different Sound, different Tenses = Homographs**

R e a D	verb - <b>present</b> tense	read
R e a D	verb - <b>past</b> tense	read

**different Spelling, different Sound, related Meaning = polysemous pairs**

R i D e	verb - <b>present</b> tense	ride
R o D e	verb - <b>past</b> tense	rode
R e e D	<b>noun</b> - thing	reed
R e e D y	<b>adjective</b> - quality	reedy

Diphthong	“Half” Vowel		Short Vowel		Long Vowel
בִּי	אֶ	=	בֶּ	=	בִּי
"ai" ("ah-ee")	"a" ("ah")		"a" ("ah")		"a" ("ah")
<i>Patach–Yod</i>	<i>Chataf–Patach</i>		<i>Patach</i>		<i>Kamatz–Gadol</i>
פִּתּוּחַ-יּוֹד	חֲטָף-פִּתּוּחַ		פִּתּוּחַ		קָמֶץ-גָּדוֹל
=====					
	אֵ	=	בֶּ		בִּי / בֵּי
	"e" ("eh")		"e" ("eh")		"ei" ("ey")
	<i>Chataf–Segol</i>		<i>Segol</i>		<i>Tzeirei–Malei / Tzeirei</i>
	חֲטָף-סֵגוֹל		סֵגוֹל		צִירֵי-מָלֵא / צִירֵי
-----					
	בֶּ / בֵּ		בֶּ	=	בִּי
	"b'..."		"i" ("ee")		"i" ("ee")
	<i>Sh'va Na</i>		<i>Chirik</i>		<i>Chirik–Malei</i>
	שְׁוָא נָע		חִירִיק		חִירִיק-מָלֵא
=====					
בּוֹי	אֶ/אֵ	=	בֶּ/בֵּ	=	בּוֹ / בֵּו
"oi" ("oy")	"o" ("oh")		"o" ("oh")		"o" ("oh")
<i>Cholam–Yod</i>	<i>Chataf–Kamatz</i>		<i>Kamatz–Katan</i>		<i>Cholam–Malei / Cholam</i>
חוֹלָם-יּוֹד	חֲטָף-קָמֶץ		קָמֶץ-קָטָן		חוֹלָם / חוֹלָם-מָלֵא
-----					
בּוֹי			בֹּ	=	בּוֹ
"ui" ("oo-ee")			"u" ("oo")		"u" ("oo")
<i>Shuruk–Yod</i>			<i>Kubutz</i>		<i>Shuruk</i>
שׁוּרוּק-יּוֹד			קִבּוּץ		שׁוּרוּק
=====					
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This is weird, but interesting!

Eonverye woh cna raed tihs, rsaie yuor rhigt hnad.

Cna yuo raed tihs? Olny 55 plepoe otu of 100 cna.

I cdnuolt blveiee taht I cluod aulacly uesdnatnrd waht I wsa rdanieg. Teh phaonmneal pweor of teh hmuan mnid! Aocodrign to a rsaerech sudty at Cmabirgde Uinervtisy, it dseno't mtaetr in waht oerdr teh lteetr in a wrod aer, teh olny iproamtnt tihng is taht teh frsit adn lsat lteetr be in teh rghit pclae. Teh rset cna be a taotl mses adn yuo cna siltl raed it whotuit a pboerlm. Tihs is bcuseae teh huamn mnid deos nto raed ervey lteetr by istlef, btu teh wrod as a wlohe.

Azanmig huh? Yaeh, adn I awlyas tghuhot slpeiling wsa ipmorantt!

While I don't know who the Internet author is for the above piece of "enlightening literature", I will give credit where credit is due to Dina Maiben for the following way of presenting a very significant difference between English and Hebrew reading cues.

th _	th _ t	With just two initial sounds "th" and "r", and just two ending sets of consonants "t" and "gh" (usually part of its previous vowel), it is possible to distinguish these English words by their lengths, even without their vowels. As we saw above, the mind can fill in the missing English vowels based on word-length and context.
th _ gh		
th _ _ gh		
thr _ _ t		
th _ _ ght		
thr _ _ gh		
thr _ _ gh _ _ t		Hebrew is a system of three-letter <i>roots</i> with <i>prefixes</i> and <i>suffixes</i> , and most Hebrew vowels are dots and dashes around the square consonants, so many Hebrew words are <u>similar</u> in length. Combined with the fact that a single Hebrew root can yield dozens of different words (depending on the <i>prefixes</i> , <i>suffixes</i> & <i>vowels</i> ), together with <u>letters which look similar</u> and <u>subtle vowels</u> , Hebrew does <b>not</b> offer very many <i>clear visual cues</i> for decoding in the way that English does.

One solution to this challenge is to learn the most common *prefixes* and *suffixes*, and then to learn the most common *prepositions* and *conjunctions*. This approach will help deal with several aspects of reading Hebrew:

1. When *prefixes* and *suffixes* are recognizable, one only has to concentrate on the root of a given word and the vowels which go with those root letters.
2. When a goal is to "parse" a verse (split it into clauses, phrases, segments and word-pairs), *prepositions* and *conjunctions* are useful "phrase-markers".
3. It is more effective to chant from the Bible or prayerbook when one has a sense of the **meaning** of the text, and knowing some basic grammar will help!

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Hebrew **Prefixes** show *Definite Article, Conjunctions, Prepositions, & "Future Tense"*.

comments	parts of speech	ל' Root Letter	נ' Root Letter	פ' Root Letter	Hebrew Prefix	English meaning
<b>most often used</b>	Definite Article				... הַ	<i>the ...</i>
depends on next consonant	Definite Article				... הָ / ... הֶ / ... הִ	<i>the ...</i> (alt. form)
<b>most often used</b>	Conjunction				... וְ	<i>and ...</i> <i>or, but</i>
next consonant has <u>Silent Sh'va</u>	Conjunction				... וּ	<i>and ...</i> (alt. form)
depends on next consonant	Conjunction				וְ \ וּ \ וֹ \ וִ	other forms
<b>most often used</b>	Preposition				... בְּ	<i>in ...</i> <i>by, with</i>
combined "double prefix"	Preposition & Article				בַּ	<i>in the ...</i> <i>by the ...</i>
depends on next consonant	Preposition & Article				בִּ / בְּ / בִּי / בֶּ	other forms
<b>most often used</b>	Preposition				... לְ	<i>to ...</i> <i>for ...</i>
combined "double prefix"	Preposition & Article				לַ	<i>to the ...</i> <i>for the ...</i>
depends on next consonant	Preposition & Article				לִ / לְ / לִי / לֶ	other forms
<b>most often used</b>	Preposition				... כְּ	<i>like ...</i> <i>as ...</i>
combined "double prefix"	Preposition & Article				כַּ	<i>like the ...</i> <i>as the ...</i>
depends on next consonant	Preposition & Article				כִּ / כְּ / כִי / כֶּ	other forms
may also be מִן	Preposition				מִ / מִן	<i>from ...</i>
taken from אֲשֶׁר	Pronoun or Conjunction				שֶׁ	<i>that ...</i> <i>who ...</i>

Hebrew **Prefixes** show *Definite Article, Conjunctions, Prepositions, & "Future Tense"*.

comments	Person / Gender / Number	ל' Root Letter	ע' Root Letter	פ' Root Letter	Hebrew Prefix	English meaning
					<u>"Future" Verbs</u>	
"common" gender	1st / c. / sg.				א ...	I will ...
"common" gender	1st / c. / pl.				נ ...	we will ...
(אתה)	2nd / m. / sg.				ת ...	you will ... (m. sg.)
(את)	2nd / f. / sg.				ת ... #	you will ... (f. sg.)
+ mixed gender	2nd / m. / pl.				ת ... ו	you will ... (m. pl.)
less often used	2nd / f. / pl.				ת ... נה	you will ... (f. pl.)
(הוא)	3rd / m. / sg.				י ...	he will ... (m. sg.)
(היא)	3rd / f. / sg.				ת ...	she will ... (f. sg.)
+ mixed gender	3rd / m. / pl.				י ... ו	they will ... (m. pl.)
		"Present Tense"		beginnings		
1st, 2nd, 3rd	both genders, sing. & plural				ם ...	present tense
1st, 2nd, 3rd	depends on next consonant				ם ... / מ ...	other forms
1st, 2nd, 3rd	both genders, sing. & plural				ה ...	passive "command"
1st, 2nd, 3rd	both genders, sing. & plural				הת ...	reflexive verb form
			Question	Prefix form		
					ה ... / ה ...	"Is ... ?"

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Hebrew **Suffixes** show Plurals; **Person/Gender/Number** for Possessives of Nouns, **Objects of Verbs & Prepositions**, Subjects of Verbs, "Present" & "Past Tense" of Verbs.

English meaning	Hebrew Suffix	ל' Root Letter	ע' Root Letter	פ' Root Letter	Person / Gender / Number	comments
masculine plural	ים # ...				some <b>masc. feminine</b>	nouns have endings
feminine plural	ות ...				some <b>fem. masculine</b>	nouns have endings
1 sg. = me / my, mine	י # ...				1st / c. / sg.	"common" gender
1 pl. = us / our, ours	נו ...				1st / c. / pl.	"common" gender
2 sg. = you m./ your, yours	ך # ...				2nd / m. / sg.	(אַתָּה)
2 sg. = you f./ your, yours	ך # ...				2nd / f. / sg.	(אַתְּ)
2 pl. = you m./ your, yours	כם ...				2nd / m. / pl.	+ mixed gender
2 pl. = you f./ your, yours	כן ...				2nd / f. / pl.	less often used
3 sg. = him / his, his	ו ...				3rd / m. / sg.	(הוא)
3 sg. = her / her, hers	ה # ...				3rd / f. / sg.	(היא)
3 pl. = them / their, theirs	הם ...				3rd / m. / pl.	+ mixed gender
3 pl. = them f./ their, theirs	הן ...				3rd / f. / pl.	less often used
3 pl. = their, theirs (m.)	ם # ...				possession of singular noun	+ mixed gender
2 sg. = your m. for pl. noun	יך # ...				possession of plural noun	silent יוּד
3 sg. = his for pl. noun	יו # ...				possession of plural noun	silent יוּד
3 sg. = her for pl. noun	יה # ...				possession of plural noun	silent יוּד

Hebrew **Suffixes** show Plurals; **Person/Gender/Number** for Possessives of Nouns, **Objects of Verbs & Prepositions**, **Subjects of Verbs**, "Present" & "Past Tense" of Verbs.

English meaning	Hebrew Suffix	ל' Root Letter	ע' Root Letter	פ' Root Letter	Person / Gender / Number	comments
<u>"Past" Verbs</u>						
I ...	אני ...				1st / c. / sg.	"common" gender
we ...	אנחנו ...				1st / c. / pl.	"common" gender
you ... (m. sg.)	אתה ...				2nd / m. / sg.	(אַתָּה)
you ... (f. sg.)	את ...				2nd / f. / sg.	(אַתְּ)
you ... (m. pl.)	אתם ...				2nd / m. / pl.	+ mixed gender
you ... (f. pl.)	אתן ...				2nd / f. / pl.	less often used
he ... (m. sg.)	הוא ...				3rd / m. / sg.	(הוא)
she ... (f. sg.)	היא ...				3rd / f. / sg.	(היא)
they ... (m. pl.)	הם ...				3rd / m. / pl.	+ mixed gender
		"Present Tense"		endings		
I ..., you (m.), he ...	הוא ...				masc. sing.	1st, 2nd, and 3rd
I ..., you (f.), she ...	את ...				fem. sing.	1st, 2nd, and 3rd
we ..., you (pl.), they (m.) ...	הם ...				masc. plural	1st, 2nd, and 3rd
we ..., you (pl.), they (f.) ...	הן ...				fem. plural	less often used
		a less common		form:		
<b>S'michut</b>	שמיכות ...				= possession or plural in a	<b>word-pair</b>

Friday evening Kiddush  
showing ק.ד.ש. Shorashim (Roots)

בְּרוּךְ אַתָּה יְיָ אֱלֹהֵינוּ מֶלֶךְ הָעוֹלָם,  
בוֹרֵא פְּרִי הַגֶּפֶן.

בְּרוּךְ אַתָּה יְיָ אֱלֹהֵינוּ מֶלֶךְ הָעוֹלָם,  
אֲשֶׁר קִדְּשָׁנוּ בְּמִצּוֹתָיו וְרָצָה בָּנוּ,

וְשִׁבַּת קִדְּשׁוֹ בְּאַהֲבָה וּבְרָצוֹן הִנְחִילָנוּ  
זְכוֹרֹן לְמַעֲשֵׂה בְּרָאשִׁית.

כִּי הוּא יוֹם תְּחִלָּה לְמִקְרָאֵי קִדְּשׁ,  
זְכוֹר לִיציאת מצרים,

כִּי בָנוּ בַּחֲרִית וְאוֹתָנוּ קִדְּשָׁתָּ מִכָּל הָעַמִּים,  
וְשִׁבַּת קִדְּשָׁךְ בְּאַהֲבָה וּבְרָצוֹן הִנְחִלָתָנוּ.

בְּרוּךְ אַתָּה יְיָ, מִקְדֵּשׁ הַשַּׁבָּת.

“...” represents the *Shoresh* (Root letters), and “#” represents the “לְ” Root letter

<i>Siddur source</i>	Hebrew Suffix	לְ Root Letter	דְ Root Letter	קְ Root Letter	Hebrew Prefix	English meaning
<i>Kiddush + K'dushah</i>		שְׁ	דְ	קְ		holiness
<i>K'dushah</i>		שְׁ	דוֹ	קְ		holy
<i>K'dushah</i>		שְׁ	דוֹ	קְ	וְ ...	and holy
<i>K'dushah</i>		שְׁ	דוֹ	קְ	הַ ...	the holy
<i>K'dushah + Shacharit</i>		שְׁ	דְ	קְ	בַּ ...	in the holiness
<i>Shacharit Yotz'rot</i>		שְׁה	דְ	קְ		holiness
<i>K'dushah</i>	... תְּךָ	שְׁ	דְ	קְ		Your holiness
<i>Kiddush</i>	... # תְּךָ	שְׁ	דְ	קְ		Your holiness
<i>Kiddush + other B'rachot</i>	... נוּ	שְׁ	דְ	קְ		make us holy
<i>Kiddush</i>	... תְּ	שְׁ	דְ	קְ		You made holy
<i>Kiddush</i>	... וְ	שְׁ	דְ	קְ		His holiness
<i>Amidah + Kiddush</i>		שְׁ	דְ	קְ	... מְ	makes holy
<i>Amidah</i>	... נוּ	שְׁ	דְ	קְ		make us holy
<i>K'dushah</i>		שְׁ	דְ	קְ	... נְ	we make holy
<i>K'dushah</i>	... # תְּךָ	שְׁ	דִי	קְ	... נְ	we make holy
<i>K'dushah</i>	... # ים	שְׁ	דִי	קְ	... מְ	make holy
<i>K'dushah</i>		שְׁ	דְ	קְ	... תְּתָ	make holy

## English prepositions (opposites)

## Hebrew prepositions

### Relative **time** and **place**:

before ( <i>conj.</i> )	after ( <i>conj.</i> )
until ( <i>conj.</i> )	since ( <i>conj.</i> )
for ( <i>conj.</i> )	during
ahead of	following
around	between
up to	past
at	by
on	close to
in	about

### Relative **place** (*direction*):

around	through
toward/s	away from
in	out
inside	outside
into	out from
to	from
up	down
up to	down from
as far as	beyond
over	under
onto	off from
along	across
via	out of

### Relative **place** (*position*):

close to	past
between	among
near to	far from
near	within
around	amid
inside of	outside of
in front of	behind
alongside	opposite
next to	across from
beside	beyond
at	by
on top of	underneath
upon	beneath
above	below
on	off
against	with

### "Bound" or Prefixed:

<b>in</b> , into, <b>with</b> , <b>by</b> , <b>at</b> , when, beside, among	... בְּ
<b>like</b> , <b>as</b> , <b>according to</b> , about, of, when	... כְּ
<b>to</b> , <b>toward</b> , <b>for</b> , into, in regard to, at, on, by	... לְ
<b>from</b> , because of, away from, <b>out of</b> , some	... מִ

### "Linked" with מִקֵּץ:

<b>from</b> , because of, away from, <b>out of</b> , some	מִן-...
<b>to</b> , <b>toward</b> , in, unto, into	אֶל-...
<b>on</b> , <b>upon</b> , <b>concerning</b> , over, above, beside	עַל-...
<b>until</b> , <b>as far as</b> , during	עַד-...

### "Independent":

<b>after</b> , <b>behind</b> , with, "west of", against	אַחֲרַי
<b>near to</b> , <b>beside</b> , by the side of, with	אַצֵּל
<b>with</b> , <b>beside</b> , near, by, for, against	אֵת
<b>between</b> , among	בֵּין
<b>on account of</b> , in order that	בְּעִבּוּר
<b>behind</b> , <b>through</b> , for, on behalf of	בְּעֵד
<b>in the middle of</b> , among	בְּקֶרֶב
<b>in the midst of</b> , inside	בְּתוֹךְ
<b>on account of</b>	יַעַן
for, in order that, so that, <b>because of</b>	לְמַעַן
<b>before</b> , <b>in front of</b> , as	לִפְנֵי
from, <b>away from</b> , before, because of	מִפְּנֵי
<b>above</b> , upward, <b>on top of</b>	מַעַל
<b>in front of</b> , before, <b>opposite</b> , against	נֶגֶד
<b>around</b> , about	סָבִיב
<b>with</b> , for, to, like, before, near, <b>beside</b> , at	עִם
<b>under</b> , <b>instead of</b> , beneath, in place of	תַּחַת

## English Conjunctions and Hebrew Conjunctions

A **clause** is a group of words with a subject and a predicate (which usually includes a verb). An *independent clause* stands complete by itself; it may have *subordinate* clauses/phrases.

A *dependent / subordinate clause* does not stand on its own, but rather it functions as an *object* or a *modifier* of the main verb (or subject, or object) in the sentence or verse.

A **phrase** is a group of words used in place of a single word, which together function as a *noun* (usually an *object* of a verb) or a *modifier* (of the main verb, subject or object).

**Coordinating conjunctions** join words, phrases and clauses that are of *equal* status. They introduce *independent* clauses (that can stand alone as complete sentences). *Coordinating conjunctions* include the English words: *and, or, but, for, so, yet, nor*.

**Subordinating conjunctions** join dependent or *subordinate clauses* to main clauses. *Subordinating conjunctions* include: *if, because, since, while, though, before, after, as, when, whenever, although, unless, until, so that*.

*Correlative conjunctions* are used in **pairs**: *either - or, neither - nor, both - and, if - then*.

*Conjunctive Adverbs* in English include: *however, therefore, furthermore, nevertheless, indeed, unfortunately, meanwhile, finally, except*.

Some *conjunctions* also function as *prepositions*. When such a word introduces a **clause**, where there is both a *noun* and (usually) a *verb*, it functions as a *subordinate conjunction*. When that same word introduces a **phrase** (no verb) rather than a clause, it is a *preposition*.

Notice that several of the *conjunctions* below also appear on the list of Hebrew *prepositions*.

### Hebrew Conjunctions

		also, indeed	גַּם
and, then, if, but, or, with	וְ	indeed, behold	הִנֵּה
or	אוֹ	as, when	כַּאֲשֶׁר
because, when, for, if	כִּי	if / if not	לֹא\לֹא־כִּי
if, unless, or, though	אִם	therefore	לְכֵן
		so that	לְמַעַן
but, rather	אֲבָל	before	לְפָנַי
then	אָז	lest	פֶּן
after	אַחֵר	until	עַד
nevertheless, assuredly	אַךְ	therefore	עַל־כֵּן
so that, because	אֲשֶׁר	now	עַתָּה
that	בְּעִבּוּר	only	רַק

## Hebrew Phrasing and Punctuation

Cantillation is the chanting of Hebrew Bible texts according to graphic *Trope* symbols that delineate *punctuation*, *accentuation*, time-bound *musical motifs*, and *meanings*.

*Nusach HaT'fillah* is the chanting of Jewish liturgical texts according to musical motifs within time-bound Modes to delineate the *meanings* and *punctuation* of the Hebrew text.

Given these definitions of Cantillation and *Nusach*, the *phrasing* and *punctuation* of liturgical and Biblical texts becomes very important. Here are some **basic** principles of Hebrew grammar that can help determine the **phrasing** of these Hebrew texts.

1. Hebrew word-order usually has a Verb before a Noun, thus "Verb - Subject"
2. Hebrew word-order usually has an Adjective after the Noun that it modifies
3. In Hebrew there is a "marker-word" for the Direct Object of a Verb: "*Ei*" (את)
4. A "*S'michut*" word-pair may occur, (בני ישראל) showing "X of Y" but dropping "of"
5. Most Hebrew words have a three-consonant Root, with Prefixes and/or Suffixes
6. Prepositions may be Prefixes, and "the" (...ה) and "and" (...ו) are always Prefixes
7. Possessives, Plurals, and 1st/2nd/3rd Person indicators are usually Suffixes

Therefore, here are some **practical implications** from these above basic principles.

When one encounters the Prefix "*Vav*" (...ו), it usually signifies one of two possibilities: either there is a *list of connected words*, or this word marks the *start of a new phrase*.

The Prefixes "*L'...*" ("to") (...ל) and "*B'...*" ("in") (...ב) indicate the start of a Prepositional Phrase, and this phrase can also function as a Verb modifier or as the Object of a Verb.

Hebrew phrases may include: "Verb – Subject", "Verb – Object", "Noun – Adjective", "Verb – Adverb", "Preposition – Object", and "*S'michut*" word-pairs (see #4 above).

In Cantillation, the combination of a Conjunctive (Joiner) *Trope* and a Disjunctive (Separator) *Trope* indicates the *close relationship* between these *pairs of words*.

In *Nusach*, the choice of musical motifs and the shape of the melodic line are used to indicate logical *phrasing* and *meaning* of the liturgical texts, within an appropriate "palette" of musical motifs traditionally chanted on a particular liturgical occasion.

The combinations of these music motifs into "*Nusach Systems*" indicate Weekday vs. Shabbat vs. Festival occasions, the time of day for each service, the sections of each service, the moods of each liturgical occasion, and the *meanings* of the liturgical texts.

Each part of the Hebrew Bible has its own special Cantillation musical motifs for *Trope*, and each type of Jewish worship service has its own special *Nusach* musical motifs.

Some basic details of *TaNaKh* and *Siddur* Hebrew

grammar issue	Hebrew term	Hebrew symbol	Hebrew example	comment
similar consonants	שִׁין \ שֵׁין	ש \ שׁ	עֲשֶׂה	o-seh
Vav as consonant	וּ	וּ וּ וּ וּ וּ וּ וּ	מִצּוֹת\מִצּוֹת	mitz- <u>yah</u> mitz- <u>yot</u>
Yod as consonant	יּוֹד	יֵי יֵי יֵי יֵי יֵי יֵי יֵי	יָדָךְ	ya-de-cha
Yod as diphthong	two vowels combined	יֵי\... וֵי	חַי	chai = “ah+ee”
Yod as <u>silent</u> vowel	plural possession	יֵי\... יֵי	בָּנֶיךָ\בָּנֶיךָ	ba-neh-cha ba-nahv
Meteg as <u>accent</u>	מֶטֶג	... # ...	לְבַבְךָ	l'-va- <u>ve</u> -cha
Kamatz Katan Chataf Kamatz	קֶמֶץ קָטָן	# / # = # / #	קֹדֶשׁוֹ	kod-sho
Furtive Patach	פֶּתַח גְּנוּבָה	ח ...	פּוֹתַח	po-tei- <u>ach</u>
<u>Pausal</u> Form	at Etnachta and Silluk	### – ###	שֶׁקֶל\שֶׁקֶל	she-kel sha-kel
Sh'va Na <u>with</u> Dagesh Chazak	דָּגֶשׁ חֲזָק	ֶּ	מִצָּוָךְ	m'-tzav- <u>v</u> '-cha
Sh'va Na <u>after</u> a long vowel	שְׁוֹא נָע	ֶּ / יֵּ / וֵּ + ֶּ	בָּרְכוּ	ba-r'-chu
Sh'va Na <u>between</u> two <u>accents</u>	primary and secondary	not all texts show <u>both</u> accents	וְשִׁמְרוּ	v'-sha- <u>m</u> '-ru
Dagesh Chazak to <u>close</u> a syllable	like the “n” in unnecessary	#ס#	הִנֵּה	hin-nei
Makkeif	מֶקֶף	...~...	עַל-כֵּן	hyphen
Dagesh Kal in “Kaf Soffit”	כָּף סּוּפִית	ך ...	וִיחַנֶּךָ	vi-chu-ne- <u>ka</u>
Mappik Hei	הָא מֶפִּיק	ה ...	שְׂמֵהּ	sh'-mei <u>h</u>
S'michut form for possession	סְמִיכוּת	י # ...	בְּנֵי יִשְׂרָאֵל	Children of Israel



## Steps for learning to **read** and **chant** a Hebrew **text**

### **Basic**

1. Examine consonants that look like other consonants
2. Examine the vowels and any punctuation marks
3. Divide the longer words into individual syllables
4. Determine where the accents appear in the words

### **Intermediate**

1. Identify where *Yod* and *Vav* function as consonants
2. Identify where *Yod* is a vowel, silent, and a diphthong
3. Identify Open and Closed Syllables in words
4. Identify Sounded and Silent *Sh'va* vowel symbols

### **Advanced**

1. Identify use of *Kamatz Katan* and *Chataf Kamatz*
2. Identify use of *Dagesh Kal* and *Dagesh Chazak*
3. Identify Gutturals, Furtive *Patach*, and *Mappik Hei*
4. Use consonant separation and Accent Retraction

### **Meaning**

1. Identify Prefixes, Root Consonants, and Suffixes
2. Find the logical phrases within the sentences
3. Look at the context of the surrounding texts
4. Try to get a sense of the meaning in translation

### **Chanting**

1. Ascertain the appropriate Trope or *Nusach HaT'fillah*
2. Identify paragraphs, sentences, and clauses
3. Review phrasing of text for musical phrases
4. Identify important words which should be stressed

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שִׁמְעֵ יִשְׂרָאֵל יְהוָה אֱלֹהֵינוּ יְהוָה אֶחָד  
וְאָהַבְתָּ אֶת יְהוָה אֱלֹהֶיךָ בְּכָל לִבְבְּךָ  
וּבְכָל נַפְשְׁךָ וּבְכָל מַאֲדְךָ וְהָיוּ הַדְּבָרִים  
הָאֵלֶּה אֲשֶׁר אֲנֹכִי מֵצִוְךָ הַיּוֹם עָלֶיךָ  
לְבַבְךָ וּשְׁנֵנֶתְךָ לְבִנְיָן וּדְבַרְתָּ בָּם  
בְּשִׁבְתְּךָ בְּבֵיתְךָ וּבִלְכֹתְךָ בַּדֶּרֶךְ  
וּבְשִׁכְבְּךָ וּבְקוּמְךָ וּקְשַׁרְתָּם לְאוֹת  
עָלֶיךָ יֶדְךָ וְהָיוּ לְטֹטְפֹת בֵּין עֵינֶיךָ  
וְכָתַבְתָּם עָלֶיךָ מִזְזוֹת בֵּיתְךָ וּבְשַׁעְרֶיךָ

שְׁמַע יִשְׂרָאֵל, יְהוָה אֱלֹהֵינוּ יְהוָה אֶחָד:  
וְאַהַבְתָּ אֶת יְהוָה אֱלֹהֶיךָ, בְּכָל-לִבְּךָ  
וּבְכָל-נַפְשְׁךָ וּבְכָל-מְאֹדְךָ: וְהָיוּ הַדְּבָרִים  
הָאֵלֶּה, אֲשֶׁר אֲנֹכִי מְצַוְךָ הַיּוֹם, עַל-לִבְּךָ:  
וְשִׁנַּנְתָּם לְבִנְיֶיךָ, וְדִבַּרְתָּ בָם, בְּשִׁבְתְּךָ  
בְּבֵיתְךָ וּבְלֶכְתְּךָ בַּדֶּרֶךְ, וּבְשֹׁכְבְּךָ  
וּבְקוּמְךָ: וְקִשְׁרָתָם לְאוֹת עַל-יָדְךָ,  
וְהָיוּ לְטָטְפֹת בֵּין עֵינֶיךָ: וְכָתַבְתָּם  
עַל-מְזוֹזוֹת בֵּיתְךָ וּבְשַׁעְרֶיךָ:

שְׁמַע יִשְׂרָאֵל, יְהוָה אֱלֹהֵינוּ יְהוָה אֶחָד:  
וְאַהַבְתָּ אֶת יְהוָה אֱלֹהֶיךָ, בְּכָל-לְבָבְךָ  
וּבְכָל-נַפְשְׁךָ וּבְכָל-מְאֹדְךָ: וְהָיוּ הָדְבָרִים  
הָאֵלֶּה, אֲשֶׁר אֲנֹכִי מְצַוְּךָ הַיּוֹם, עַל-לְבָבְךָ:  
וְשָׁנַנְתָּם לְבָנֶיךָ, וְדִבַּרְתָּ בָם, בְּשִׁבְתְּךָ  
בְּבֵיתְךָ וּבִלְכֹתְךָ בַּדֶּרֶךְ, וּבְשֹׁכְבְּךָ  
וּבְקוּמְךָ: וְקִשְׁרָתָם לְאוֹת עַל-יָדְךָ,  
וְהָיוּ לְטֹטְפֹת בֵּין עֵינֶיךָ: וְכָתַבְתָּם  
עַל-מְזוֹזֹת בֵּיתְךָ וּבְשַׁעְרֶיךָ:

**Deut. 6:4 - 9** showing how **Trope segments** reflect the *punctuation* and *meaning*,  
 showing the **Verb - Subject - Object (VSO)** approach to Hebrew syntax,  
 and showing how the *suffix pronoun* תם... refers back to the *Subject* הַדְּבָרִים.

[You] **Listen**, O Israel;

Adonai is your God, Adonai is One.

שְׁמַע יִשְׂרָאֵל;  
 יְהוָה אֱלֹהֵינוּ יְהוָה | אֶחָד.

And you **shall love** Adonai your God,  
 with all your heart and with all your soul,  
 and with all your might (resources).

וָאָהַבְתָּ אֶת יְהוָה אֱלֹהֶיךָ;  
 בְּכָל-לְבָבְךָ וּבְכָל-נַפְשְׁךָ  
 וּבְכָל-מְאֹדְךָ.

And [shall be] these words ,  
 which I command you today,  
 [shall be] upon your heart.

וְהָיוּ הַדְּבָרִים הָאֵלֶּה,  
 אֲשֶׁר אֲנִי מְצַוְךָ הַיּוֹם,  
 עַל-לְבָבְךָ.

And you **shall teach** them [these words]  
 diligently to your children,  
 and you **shall speak** of them [these words];  
 when you sit in your house  
 and when you walk in the path,  
 and when you lie down and when you arise.

וְשִׁנַּנְתָּם לְבְנֶיךָ,  
 וְדִבַּרְתָּ בָם;  
 בְּשִׁבְתְּךָ בְּבֵיתְךָ  
 וּבִלְכֹתְךָ בַּדֶּרֶךְ,  
 וּבְשֹכְבְּךָ וּבְקוּמְךָ.

And you **shall bind** them [these words] for  
 a sign upon your arm; \*  
 and they [these words] **shall be** a symbol  
 between your eyes. \*

וְקָשַׁרְתָּם לְאוֹת עַל-יָדְךָ;  
 וְהָיוּ לְטֹטַפֹּת בֵּין עֵינֶיךָ.

And you **shall write** them [these words]  
 upon the doorposts of your house \*\*  
 and upon your [city] gateways.

וְכָתַבְתָּם עַל-מְזוֹזוֹת בֵּיתְךָ  
 וּבְשַׁעְרֶיךָ.

\* *Tefillin* for arm and head \*\* *Mezuzah*

שְׁמַע (4) | יִשְׂרָאֵל | יְהוָה אֱלֹהֵינוּ | יְהוָה | אֶחָד:  
imp. verb | object | appositive | noun | adj.

וְאֶהְבֵּת (5) | אֶת יְהוָה אֱלֹהֶיךָ | כָּל-לְבָבְךָ וְכָל-נַפְשְׁךָ וְכָל-מְאֹדְךָ:  
pron.+ v.+ conj. | appositive as dir. obj. | prep. phrases as adverbs

וְהָיוּ (6) | הַדְּבָרִים הָאֵלֶּה | אֲשֶׁר אֲנִי מְצֹנֶה הַיּוֹם | עַל-לְבָבְךָ:  
verb + conj. | adj. subject | prep. phrase as adverb | prep. phrase

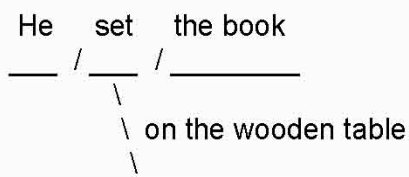
וְשָׁנַנְתָּם לְבְנֶיךָ (7) | וְדִבַּרְתָּ | בָּם | בְּשִׁבְתְּךָ בְּבֵיתְךָ | וּבְלַכְתְּךָ בְּדֶרֶךְ |  
pron.+ v.+ conj. | pron. object | prep. phrase as adv. | prep. phrase

וְקִשְׁרְתָם (8) | לְאוֹת | עַל-יָדְךָ |  
pron.+ v.+ conj. | prep.+ object | prep. phrase as adv.

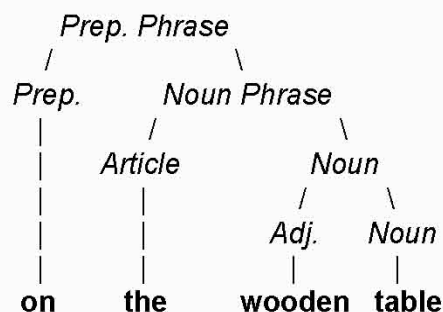
וְהָיוּ | לְטֹטְפֹת | בֵּין עֵינֶיךָ:  
verb + conj. | prep.+ object | prep. phrase as adv.

וְכָתַבְתָּם (9) | עַל-מְזוֹזוֹת בֵּיתְךָ | וּבְשַׁעְרֶיךָ:  
pron.+ v.+ conj. | prep. phrase as adverb | prep. phrase

<b>He</b>	<b>set</b>	<b>the book</b>	<b>on</b>	<b>the wooden table</b>
<i>pron.</i>	<i>verb</i>	<i>article + noun</i>	<i>prep.</i>	<i>article + adj. + noun</i>
Subject	Verb	Object	Adverbial Phrase	



"Sentence Diagram"



"Labelled Tree"

Deut. 6:5a

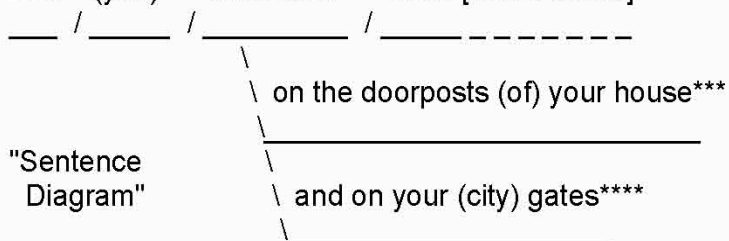
<b>And</b>	<b>you</b>	<b>shall love</b>	<b>the Lord</b>	<b>v' – ahav – ta et Adonai</b>
				and love you shall Lord
<i>conj.</i>	<i>pron.</i>	<i>fut. verb</i>	<i>article + noun</i>	<i>conj. verb root pron. /dir.obj.\ \marker/ noun</i>
Subject	Verb	Object		Verb Subject Object

Deut. 6:9

And (you) shall write them on the doorposts (of) your house and on your gates.

<b>Uch – tav – tam</b>	<b>al</b>	<b>m'–zu–zot</b>	<b>bei-te-cha</b>	<b>u – vish – a – re – cha .</b>
		(construct) + (absolute)		
<i>conj. verb pron.</i>	<i>prep. pl. noun</i>	<i>noun pron.</i>	<i>conj. prep. noun pron.</i>	
Verb (Subject) Object	Adverbial Phrase 1		Adverb Phrase 2	

And (you)\* shall write them [these words]\*\*



"Sentence Diagram"

\* implied Subject \*\* Deut. 6:6a

\*\*\* "s'michut" form of two nouns

\*\*\*\* rules of conduct were posted on inner walls of the city gate



## Mikvah Prayers

בָּרוּךְ אַתָּה יְיָ אֱלֹהֵינוּ מֶלֶךְ הָעוֹלָם,  
אֲשֶׁר קִדְּשָׁנוּ בְּמִצְוֹתָיו, וְצִוָּנוּ עַל הַטְּבִילָה.

Ba-ruch A-tah A-do-nai, E-lo-hei-nu Me-lech Ha-o-lam,  
a-she- ki-d'-sha-nu b'-mitz-vo-tav, v'-tzi-va-nu al ha-T'-vi-lah.

*Praised are You, Lord our God, Ruler of the universe, Who has made us holy  
through Your commandments, and commanded us concerning immersion.*

בָּרוּךְ אַתָּה יְיָ אֱלֹהֵינוּ מֶלֶךְ הָעוֹלָם,  
שֶׁהַחַיִּינוּ וְקִיָּמָנוּ וְהִגִּיעָנוּ לַזְמַן הַזֶּה.

Ba-ruch A-tah A-do-nai, E-lo-hei-nu Me-lech Ha-o-lam,  
she-he-che-ya-nu v'-ki-y'-ma-nu v'-hi-gi-a-nu la-z'-man ha-zeh.

*Praised are You, Adonai our God, Ruler of the Universe,  
Who gives us life, sustains us, and helps us to reach this day.*

בָּרוּךְ אַתָּה יְיָ אֱלֹהֵינוּ מֶלֶךְ הָעוֹלָם,  
אֲשֶׁר קִדְּשָׁנוּ בְּמִצְוֹתָיו, וְצִוָּנוּ עַל הַטְּבִילָה.

Bah-rooch Ah-tah Ah-doh-nai, Eh-loh-hey-noo  
Meh-lech Hah-oh-lahm, ah-she- kee-d'-shah-noo  
b'-meetz-voh-tahv, v'-tzee-vah-noo ahl hah-T'-vee-lah.

*Praised are You, Lord our God, Ruler of the universe, Who has made us holy  
through Your commandments, and commanded us concerning immersion.*

בָּרוּךְ אַתָּה יְיָ אֱלֹהֵינוּ מֶלֶךְ הָעוֹלָם,  
שֶׁהַחַיִּינוּ וְקִיָּמָנוּ וְהִגִּיעָנוּ לַזְמַן הַזֶּה.

Bah-rooch Ah-tah Ah-doh-nai, Eh-loh-hey-noo  
Meh-lech Hah-oh-lahm, sheh-heh-cheh-yah-noo  
v'-kee-y'-mah-noo v'-hee-gee-ah-noo lah-z'-mahn hah-zeh.

*Praised are You, Adonai our God, Ruler of the Universe,  
Who gives us life, sustains us, and helps us to reach this day.*

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## Appendix C – Chapter 3-b

### The Hebrew Bible and Cantillation Systems

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## תנ"ך Structure of the Hebrew Bible - the IaNaKh

### תורה Torah

Genesis	בְּרֵאשִׁית
Exodus	שְׁמוֹת
Leviticus	וִיקְרָא
Numbers	בְּמִדְבָּר
Deuteronomy	דְּבָרִים

### כתובים Writings

אמ"ת – 3 "Poetic" Books

Psalms	תְּהִלִּים
Proverbs	מִשְׁלֵי
Job	אִיּוֹב

פסח *Passover*

שִׁיר הַשִּׁירִים Song of Songs

שבועות *Shavuot*

רות רות

תשעה באב *Tisha B'Av*

איכה Lamentations

סוכות *Sukkot*

קהלת Ecclesiastes

פורים *Purim*

אסתר Esther

דניאל Daniel

עזרא Ezra

נחמיה Nehemiah

דברי הימים א' – ב' 1 & 2 Chronicles

### נביאים Prophets

Joshua	יְהוֹשֻׁעַ
Judges	שׁוֹפְטִים
Samuel 1 & 2	שְׁמוּאֵל א' – ב'
Kings 1 & 2	מְלָכִים א' – ב'
Isaiah	יְשַׁעְיָה
Jeremiah	יִרְמְיָה
Ezekiel	יְחֶזְקֵאל

the "12"

Hosea	הוֹשֵׁעַ
Joel	יוֹאֵל
Amos	עָמוֹס
Obadiah	עֲבַדְיָה
Jonah	יוֹנָה
Micah	מִיכָה
Nahum	נְחֻם
Habakkuk	חַבְקֻק
Zephaniah	צְפַנְיָה
Haggai	חַגִּי
Zechariah	זְכַרְיָה
Malachi	מַלְאכִי

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### **Why should we chant aloud from the Torah scroll?**

Why not just chant aloud directly from the Chumash?  
Why not just read the text aloud rather than chanting?  
Why not just read aloud the Torah portion in English?

### **Why should we chant an assigned weekly Torah portion?**

Why not just chant whatever texts seem interesting?  
Why not skip the parts that make us uncomfortable?  
Why not chant however much text we want at a time?

### **Why chant Torah aloud with specific melodies for Trope?**

Why not chant the Torah in a simple "sing-song"?  
Why not chant the phrases where we think is best?  
Why not use simple music for the elaborate Trope?

### **1. the *Jewish People* - community, history and Peoplehood**

**community:** we bind with fellow Jews everywhere – a horizontal connection to them.

**history:** we bind to our ancestors – a vertical connection back through the millennia.

**Peoplehood:** chanting Torah is a special Jewish ritual pursuit, ancient and sacred.

### **2. the *Jewish Tradition* - ritual, authority and responsibility**

**tradition:** we reflect the traditions of our communities within the larger Jewish world.

**Jewish ritual:** specific actions accompany Torah chanting, which help make it special.

**authority:** we may sense "being commanded" to do this, or the authority of tradition.

**responsibility:** we fill a needed role in the Jewish community when we learn this skill.

### **3. *Affective* aspects - beauty, emotion and musical impact**

**beauty:** the concept "*hiddur mitzvah*", making a ritual beautiful, is increased by chant.

**emotion:** chanting the musical motifs indicates and heightens the emotions in the text.

**power:** chanting has built-in "vocal projection" which communicates this important text.

**music:** it is more engaging to chant a text rather than read it – it heightens inflections.

### **4. *Cognitive* aspects - calendar cycle, integrity and discipline**

**calendar cycle:** the assigned Torah portions reflect the cycles of the Jewish calendar.

**integrity:** chanting the Trope markings communicates traditional meanings of the text.

**discipline:** by chanting set portions on regular occasions, we study the entire Torah.

**intentionality:** by chanting from a Torah scroll in Hebrew, we show that this is special.

### **5. "*Meta-issues*" - the Sacred, memory and Jewish identity**

sense of the **Sacred:** we say that "study is worship", so Torah chant is a form of prayer.

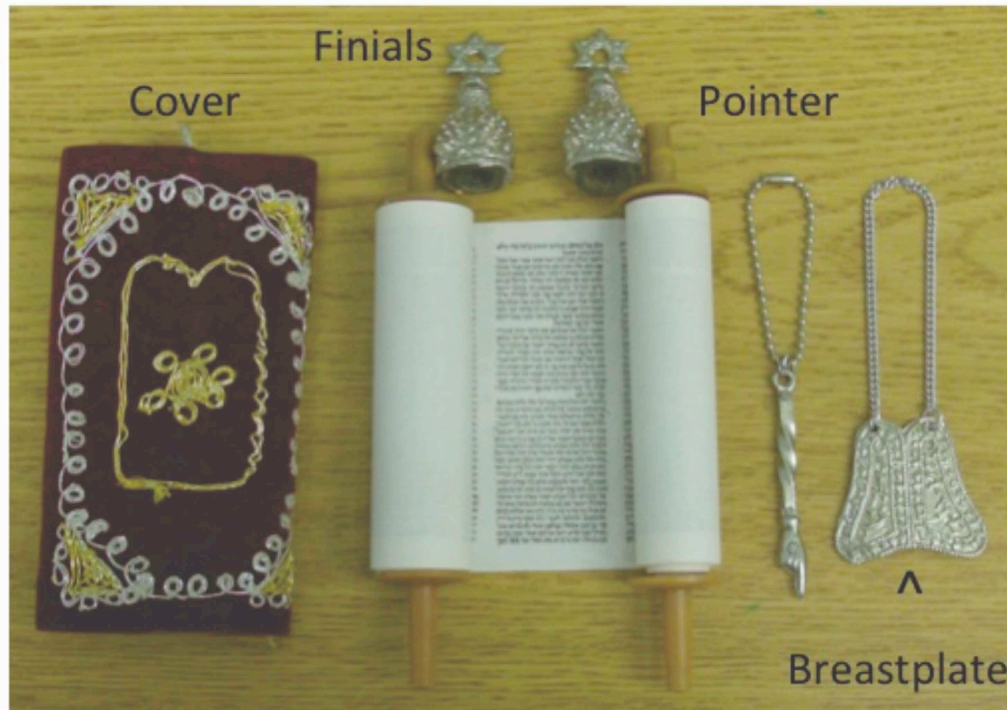
**memory:** chanting helps memorize the text, and ties into subconscious group memory.

personal **challenge:** this sacred responsibility is an investment in one's Jewish identity.

## Handwritten *Torah* scroll, open to Exodus 14 – 15



Model of a *Torah* scroll with its *Me'il*, *Rimonim*, *Yad*, and *Choshen*  
(Cover or Mantle, Finials, Pointer, and Breastplate respectively)



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## Development of the Tiberian Masoretic Tradition

### Transmission of the *Torah* text

1. the *Torah* text was codified and handwritten in consonantal form on parchment scrolls; *Nehemiah 8* tells of Ezra chanting for the Israelites around 440 BCE
2. the *Torah* was transmitted for centuries by oral chant from the *consonantal text*; *Berachot 62a* of the Babylonian Talmud mentions "Chironomy" (hand signs)
3. life became unsettled in the Middle East, and there was concern that the chain of oral tradition about how the *TaNakh* was to be chanted could become broken
4. three different attempts were made to develop a system to codify vowels, accents and punctuation, but the Tiberian system was accepted as the most legible
5. *Ta'amei HaMikra* were added in the 800's C.E. by the Ben Asher family in Tiberius to *codify* the received oral tradition of *meaning* and *chanting* the *TaNakh* text

### Tiberian problem-solving

1. the *Torah* text was sacred, and could not be modified to include vowels and accents
2. the *STaM* font for writing a *Torah* is "heavy" on the *top* horizontal bar of consonants
3. two of the attempted vowel and accent systems, the Babylonian and the Palestinian, put most of the markings above the "heavy" top horizontal bar of the consonants
4. the Tiberian system put most of the vowels below the consonants, and the *Ta'amei HaMikra* symbols were placed both above and below the Hebrew consonants
5. in the Tiberian Masoretic system, *Ta'amei HaMikra* function first as *punctuation*, then as *accentuation* (by where they are placed), and finally as *intonation* (chant)

### Tiberian vowel symbols

1. there are three basic "vowel-classes" in Semitic languages:
  - "ah" = formed by dropping the jaw – *kamatz gadol, patach*
  - "i + e" = formed with "smiling" lips – *chirik, tzeirei, segol*
  - "o + u" = formed with rounded lips – *cholam, shuruk, kubutz*
2. the Masoretic vowel symbols reflect the three ways in which vowels are formed:
  - "ah" class vowels are shown by a horizontal line under a consonant
  - "i + e" class vowels are shown by 1, 2, or 3 dots under a consonant, which reflect the tongue's position for each vowel
  - "o + u" class vowels are shown by dots above or beside consonants, except for the *kubutz* (which is not a common vowel)

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### Tiberian *Ta'amei HaMikra* symbols

1. The *Ta'amei HaMikra* reflect an oral tradition of chanting the ancient Biblical text:  
the *Torah* was originally a chanted oral tradition only, as sacred literature  
the handwritten consonantal Torah text was also chanted for many centuries  
*Ta'amei HaMikra* were added by the Tiberian Masoretes in the 800's CE to  
codify the received oral tradition of Biblical *meaning* and *chanting*
2. six versions of musical chant motifs use the same Trope signs and names for the  
21 "Prose" books of the *TaNaKh*: *Torah*, *Haftarah*, *Yamim Nora'im* (High Holy  
Days *Torah*), *Esther*, *Eichah*, and "*RaKaSh*" (*Ruth*, *Kohelet*, *Shir HaShirim*), but  
their musical values *vary* for each system and in each world Jewish community
3. the 3 "Poetic" Books in *Ketuvim*, namely Job, Proverbs and Psalms ("*EMeT*") have  
a different system of *Ta'amei HaMikra* which is not chanted by Ashkenazim

### Two ancient Tiberian manuscripts

1. the names and shapes of the *Ta'amei HaMikra* reflect their *musical motif patterns*  
and *syntactic functions*, and may also reflect ancient "Chironomy" hand signals
2. the "*Aleppo Codex*" was prepared about 930 CE by *Aharon ben Moshe ben-Asher*  
in Tiberius, Israel as a complete *TaNaKh*, parts of which are now destroyed
3. the "*Leningrad Codex*" was prepared about 1009 CE by *Samuel ben Jacob* in Fustat  
(Cairo), Egypt as a complete *TaNaKh*, and it is now the oldest *complete* text
4. this became the basis of the *Biblia Hebraica Kittel* (BHK) 1937, the *Biblia Hebraica  
Stuttgartensia* (BHS) 1968-1977, the *Michigan-Claremont-Westminster* (MCW)  
computer code of the Hebrew Bible text, and the 1985 *New JPS TaNaKh*.

### Functions of the Masoretic Trope symbols

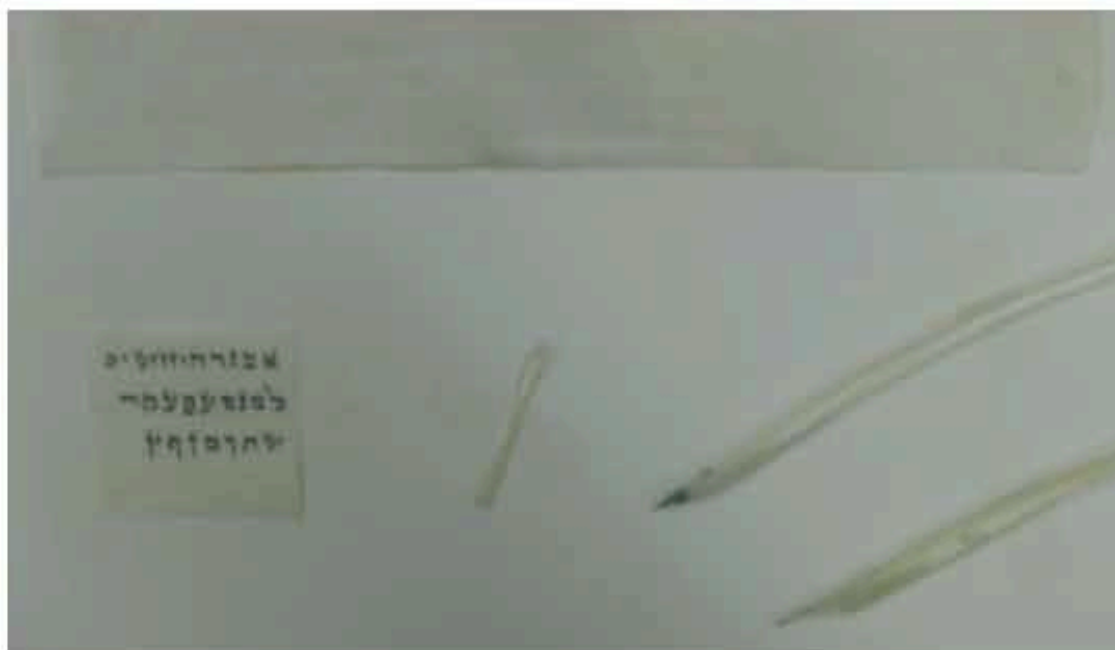
1. the system of *Ta'amei HaMikra* in the *TaNaKh* is *logogenic*, which means that the  
*musical motifs* in the chant are "driven" by the *rhythms and accents* of the text
2. the use of *Disjunctive* (**separating**) and *Conjunctive* (**joining**) Trope help *parse the*  
*syntax* of a verse to show the **punctuation**, beyond phrases to "word-pairs"
3. the term *Ta'amei HaMikra* means "accents of reading"; by placing Trope symbols  
above or below the accented syllables, the Trope show the **accentuation**
4. each Trope symbol represents a cluster of musical notes; the "main body" of each  
musical motif is chanted on the accented syllable, thus showing the **intonation**
5. the Tiberian Masoretic system also includes indications of *K'ri* (or *K'rei*) and *K'tiv* to  
show where the received oral tradition is different from the handwritten text



Handwritten consonantal text on a parchment scroll - no vowels or Trope

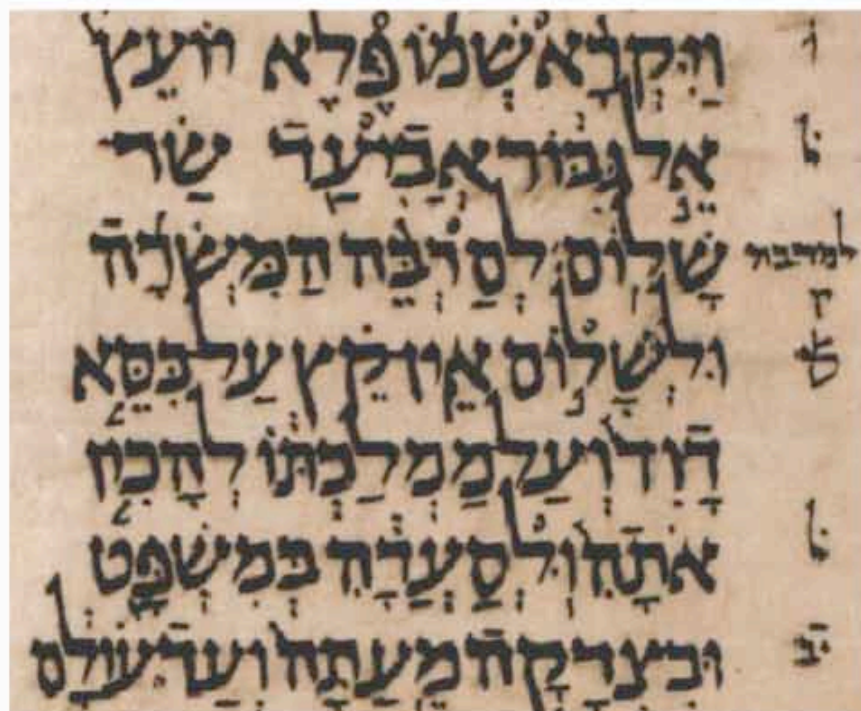


Quills, parchment, sinews, and alphabet written by a Sofer (Scribe)

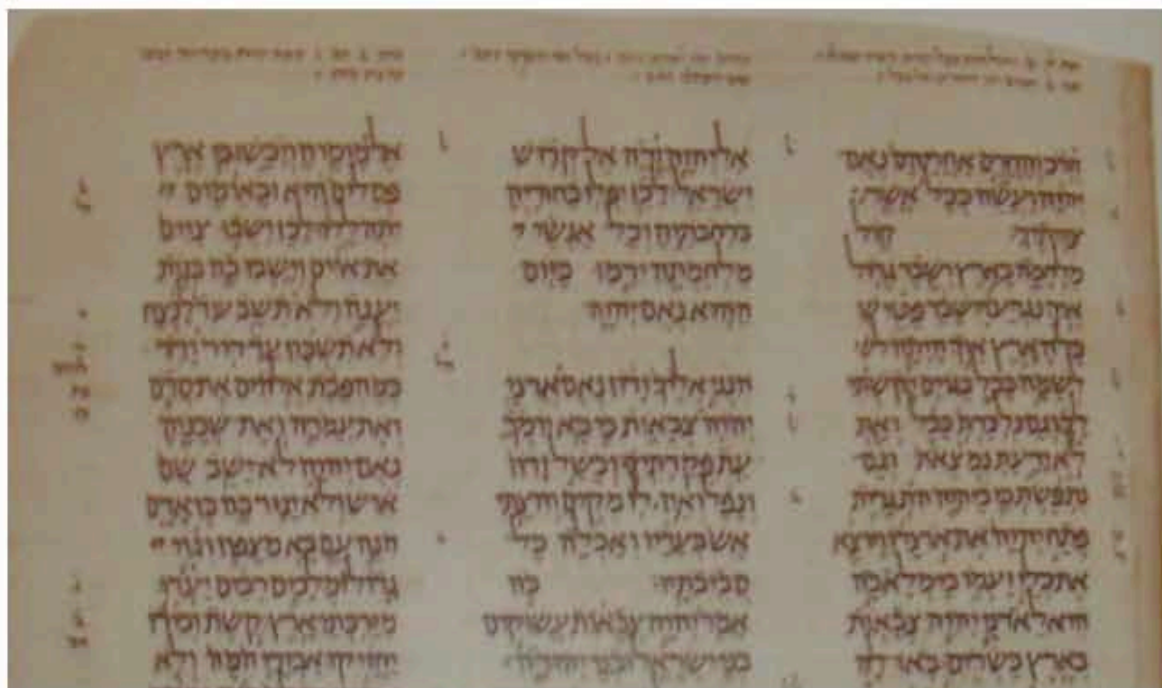


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Aleppo Codex – 930 C.E.



Leningrad Codex – 1009 C.E.





# Trope Names

based on the **Trope Families** sheet (N. Schwartz)

Page 1 of 2

(These are read from RIGHT to LEFT across each line)

זָקֵף-קָטוֹן ,	מוֹנַח	פֶּשְׁטָא	מַהֲפֵךְ	קַדְמָא
Zakeif Katon	Munach	Pashta	Mapach	Kadma

אַתְנַחְתָּא ;	מוֹנַח	טִפְחָא	מֵירְכָא
Etnachta	Munach	Tip'cha	Meir'cha

סִילּוּק .	מֵירְכָא	טִפְחָא	מֵירְכָא
Silluk	Meir'cha	Tip'cha	Meir'cha

תְּבִיר	מֵירְכָא	//	תְּבִיר	דָּרְגָא	קַדְמָא
T'vir	Meir'cha	//	T'vir	Darga	Kadma

רְבִיעַ ,	מוֹנַח	מוֹנַח-לְגַרְמֵיחַ
R'vi-a	Munach	Munach L'Garmeih

סְגוֹלˆ ;	מוֹנַח	זֶרְקָא˜	מוֹנַח
Segol	Munach	Zarka	Munach

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# Trope Names

Page 2 of 2

based on the **Trope Families** sheet (N. Schwartz)

(These are read from RIGHT to LEFT across each line)

פָּזֵיר	מוֹנַח	///	אֲזֵלָא	קַדְמָא
Pazeir	Munach	///	Azla	Kadma
תְּלִישָׁא-קְטַנָּה	//	תְּלִישָׁא-גְדוֹלָה	מוֹנַח	
T'lisha K'tanah	//	T'lisha G'dolah	Munach	
שְׁלִשְׁלֵת	///	זָקֵף-גְּדוֹל	///	יְתִיב
Shal <u>she</u> let	///	Zakeif Gadol	///	Y'tiv
מַאֲלָא	///	מֵירְכָא-כְּפוּלָה	///	מְתִיגָה-זָקֵף
May'la	///	Meir'cha Ch'fulah	///	M'tigah Zakeif
קַרְנֵי-פָרָה	יֶרַח בֶּן-יוֹמוֹ	///	גֵּירְשִׁימ	גֵּירֵשׁ
Karnei Farah	Yerach ben-Yomo	///	Geir'shayim	<u>Ge</u> ireish
סוֹף-הַחֵילֶק:	מֵירְכָא	טִפְחָא	מֵירְכָא	
Sof Ha <u>Che</u> ilek	Meir'cha	Tip'cha	Meir'cha	

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◀◀◀◀ (Disjunctives) / Separators ◯ (Conjunctives) / Joiners ▶▶▶▶

סססס

סססס

סססס

סססס

- סִילּוּק מִירְכָּא טִפְחָא מִירְכָּא (1)  
Silluk Meir'cha Tip'cha Meir'cha  
◀◀◀◀ ▶▶▶▶◀ ▶▶▶▶◀ ▶▶▶▶◀ ▶▶▶▶◀

סססס

סססס

סססס

סססס

- ; אֶתְנַחְתָּא מוֹנַח טִפְחָא מִירְכָּא (2)  
Etnachta Munach Tip'cha Meir'cha  
◀◀◀◀ ▶▶▶▶◀ ▶▶▶▶◀ ▶▶▶▶◀

ססס

סססס

ססס

סססס

- , סְגוּל מוֹנַח זֶרְקָא מוֹנַח (3)  
Segol Munach Zarka Munach  
◀◀◀◀ ▶▶▶▶◀ ▶▶▶▶◀ ▶▶▶▶◀

סססס

סססס

ססס

סססס

- , זָקֵף-קָטוֹן מוֹנַח פִּשְׁטָא מִהַפֵּךְ (4)  
Zakeif Katon Munach Pashta Mapach  
◀◀◀◀ ▶▶▶▶◀ ▶▶▶▶◀ ▶▶▶▶◀

סססס

סססס

סססס

- , רְבִיעַ מוֹנַח מוֹנַח-לְגַרְמִיָּה (5)  
R'vi-a Munach Munach L'Garmeih  
◀◀◀◀ ▶▶▶▶◀ ▶▶▶▶◀ ▶▶▶▶◀

◀◀◀◀ (Disjunctives) / Separators ◻ (Conjunctives) / Joiners ▶▶▶▶

סססס

תְּבִיר

T'vir  
◀◀◀◀

סססס

מֵירְכָא

Meir'cha  
◀◀◀◀


סססס

תְּבִיר

T'vir  
◀◀◀◀

סססס

דָּרְגָא

Darga  
◀◀◀◀

(6)

סססס

גֵּירְשִׁים

Geir'shayim  
◀◀◀◀


סססס

גֵּירֵשׁ

Geireish  
◀◀◀◀


סססס

אֲזְלָא

Azla  
◀◀◀◀

סססס

קִדְמָא

Kadma  
◀◀◀◀

(7)

סססס

תְּלִישָׁא-קִטְנָה

T'lisha K'tanah  
◀◀◀◀


סססס

תְּלִישָׁא-גְדוֹלָה

T'lisha G'dolah  
◀◀◀◀

סססס

מוֹנַח

Munach  
◀◀◀◀

(8)

סססס

זָקֵף-קָטוֹן

Zakeif Katon  
◀◀◀◀

סססס

מוֹנַח

Munach  
◀◀◀◀

סססס

יְתִיב

Y'tiv  
◀◀◀◀


סססס

זָקֵף-גְּדוֹל

Zakeif Gadol  
◀◀◀◀

(9)

סססס

מַאֲלָא

May'la  
◀◀◀◀


סססס

מְתִיגָה-זָקֵף

M'tigah Zakeif  
◀◀◀◀


סססס

פָּזֵיר

Pazeir  
◀◀◀◀

סססס

מוֹנַח

Munach  
◀◀◀◀

(10)

# Trope Families

Page 1 of 2

◀◀◀◀ (Disjunctives) / Separators

(Conjunctives) / Joiners ▶▶▶▶

• סִלּוּק מִירְכָּא טִפְחָא מִירְכָּא (1)

Silluk  
◀◀◀◀

Meir'cha  
◀◀◀◀

Tip'cha  
◀◀◀◀

Meir'cha  
◀◀◀◀

; אֶתְנַחְתָּא מוֹנַח טִפְחָא מִירְכָּא (2)

Etnachta  
◀◀◀◀

Munach  
◀◀◀◀

Tip'cha  
◀◀◀◀

Meir'cha  
◀◀◀◀

, סְגוֹל מוֹנַח זָרְקָא מוֹנַח (3)

Segol  
◀◀◀◀

Munach  
◀◀◀◀

Zarka  
◀◀◀◀

Munach  
◀◀◀◀

, זָקֵיף-קָטוֹן מוֹנַח פִּשְׁטָא מַהֲפֵךְ קַדְמָא (4)

Zakeif Katon  
◀◀◀◀

Munach  
◀◀◀◀

Pashta  
◀◀◀◀

Mapach  
◀◀◀◀

Kadma  
◀◀◀◀

, רְבִיעַ מוֹנַח מוֹנַח-לְגַרְמִיָּה | (5)

R'vi-a  
◀◀◀◀

Munach  
◀◀◀◀

Munach L'Garmeih  
◀◀◀◀

תְּבִיר מִירְכָּא ||| תְּבִיר דָּרְגָא קַדְמָא (6)

T'vir  
◀◀◀◀

Meir'cha  
◀◀◀◀

T'vir  
◀◀◀◀

Darga  
◀◀◀◀

Kadma  
◀◀◀◀

# Trope Families

Page 2 of 2

◀◀◀◀ (Disjunctives) / Separators

(Conjunctives) / Joiners ▶▶▶▶

(7) גֵּרְשַׁיִם      גֵּרֵשׁ      אֲזֵלָא      קַדְמָא

Geir'shayim  
◀◀◀◀


Geireish  
◀◀◀◀


Azla  
◀◀◀◀

Kadma  
◀◀◀◀

(8) תְּלִישָׁא-קְטַנָּה      מוֹנַח      תְּלִישָׁא-גְּדוֹלָה

T'lisha K'tanah  
◀◀◀◀


T'lisha G'dolah  
◀◀◀◀

Munach  
◀◀◀◀

(9) זָקֵף-קָטוֹן      מוֹנַח      יְתִיב      זָקֵף-גָּדוֹל

Zakeif Katon  
◀◀◀◀

Munach  
◀◀◀◀

Y'tiv  
◀◀◀◀


Zakeif Gadol  
◀◀◀◀

(10) מַאֲלָא      מְתִיגָה-זָקֵף      פָּזֵר      מוֹנַח

May'la  
◀◀◀◀


M'tigah Zakeif  
◀◀◀◀


Pazeir  
◀◀◀◀

Munach  
◀◀◀◀

(11) תְּבִיר      מֵירְכָא-כְּפוּלָה      דָּרְגָא      שְׁלִשְׁלֵת

T'vir  
◀◀◀◀

Meir'cha Ch'fulah  
◀◀◀◀

Darga  
◀◀◀◀


Shalsholet  
◀◀◀◀

(12) סוּף-הַחֵילֵק      מֵירְכָא      טִפְחָא      מֵירְכָא

Sof HaCheilek  
◀◀◀◀

Meir'cha  
◀◀◀◀

Tip'cha  
◀◀◀◀

Meir'cha  
◀◀◀◀

# Trope Variations

Page 1 of 7

◀◀◀◀ (Disjunctives) / Separators

(Conjunctives) / Joiners ▶▶▶▶

סִילּוּק

Silluk  
◀◀◀◀

מִירְכָּא

Meir'cha  
◀◀◀◀

טִפְחָא

Tip'cha  
◀◀◀◀

מִירְכָּא (1.1)

Meir'cha  
◀◀◀◀

סִילּוּק

Silluk  
◀◀◀◀

טִפְחָא

Tip'cha  
◀◀◀◀

מִירְכָּא (1.2)

Meir'cha  
◀◀◀◀

סִילּוּק

Silluk  
◀◀◀◀

מִירְכָּא

Meir'cha  
◀◀◀◀

טִפְחָא (1.3)

Tip'cha  
◀◀◀◀

סִילּוּק

Silluk  
◀◀◀◀

טִפְחָא (1.4)

Tip'cha  
◀◀◀◀

.

(period)

סִילּוּק (1.5)

Silluk  
◀◀◀◀

אַתְנַחְתָּא

Etnachta  
◀◀◀◀

מוֹנַח

Munach  
◀◀◀◀

טִפְחָא

Tip'cha  
◀◀◀◀

מִירְכָּא (2.1)

Meir'cha  
◀◀◀◀

אַתְנַחְתָּא

Etnachta  
◀◀◀◀

טִפְחָא

Tip'cha  
◀◀◀◀

מִירְכָּא (2.2)

Meir'cha  
◀◀◀◀

## Trope Variations

Page 2 of 7

◀◀◀◀ (Disjunctives) / Separators

(Conjunctives) / Joiners ▶▶▶▶

אַתְּנַחְתָּא

Etnachta  
◀◀◀◀

מוֹנַח

Munach  
◀◀◀◀

טִפְּחָא

Tip'cha  
◀◀◀◀

(2.3)

אַתְּנַחְתָּא

Etnachta  
◀◀◀◀

טִפְּחָא

Tip'cha  
◀◀◀◀

(2.4)

;

(semi-colon)

אַתְּנַחְתָּא

Etnachta  
◀◀◀◀

(2.5)

סְגוֹלֵא

Segol  
◀◀◀◀

מוֹנַח

Munach  
◀◀◀◀

זֶרְקָא

Zarka  
◀◀◀◀

מוֹנַח

Munach  
◀◀◀◀

(3.1)

סְגוֹלֵא

Segol  
◀◀◀◀

זֶרְקָא

Zarka  
◀◀◀◀

מוֹנַח

Munach  
◀◀◀◀

(3.2)

סְגוֹלֵא

Segol  
◀◀◀◀

מוֹנַח

Munach  
◀◀◀◀

זֶרְקָא

Zarka  
◀◀◀◀

(3.3)

,

(comma)

סְגוֹלֵא

Segol  
◀◀◀◀

זֶרְקָא

Zarka  
◀◀◀◀

(3.4)



# Trope Variations

Page 3 of 7

◀◀◀◀ (Disjunctives) / Separators

(Conjunctives) / Joiners ▶▶▶▶

זָקֵף-קָטוֹן מוֹנַח פְּשֻׁטָּה מְהַפֵּךְ קַדְמָא (4.1)

Zakeif Katon  
◀◀◀◀

Munach  
◀◀◀◀

Pashta  
◀◀◀◀

Mapach  
◀◀◀◀

Kadma  
◀◀◀◀

זָקֵף-קָטוֹן מוֹנַח פְּשֻׁטָּה מְהַפֵּךְ (4.2)

Zakeif Katon  
◀◀◀◀

Munach  
◀◀◀◀

Pashta  
◀◀◀◀

Mapach  
◀◀◀◀

זָקֵף-קָטוֹן פְּשֻׁטָּה מְהַפֵּךְ קַדְמָא (4.3)

Zakeif Katon  
◀◀◀◀

Pashta  
◀◀◀◀

Mapach  
◀◀◀◀

Kadma  
◀◀◀◀

זָקֵף-קָטוֹן פְּשֻׁטָּה מְהַפֵּךְ (4.4)

Zakeif Katon  
◀◀◀◀

Pashta  
◀◀◀◀

Mapach  
◀◀◀◀

זָקֵף-קָטוֹן מוֹנַח פְּשֻׁטָּה (4.5)

Zakeif Katon  
◀◀◀◀

Munach  
◀◀◀◀

Pashta  
◀◀◀◀

זָקֵף-קָטוֹן מוֹנַח יְתִיב (9.2)

Zakeif Katon  
◀◀◀◀

Munach  
◀◀◀◀

Y'tiv  
◀◀◀◀

זָקֵף-קָטוֹן פְּשֻׁטָּה מִיִּרְכָּא (4.6)

Zakeif Katon  
◀◀◀◀

Pashta  
◀◀◀◀

Meir'cha  
◀◀◀◀

## Trope Variations

Page 4 of 7

◀◀◀◀ (Disjunctives) / Separators

(Conjunctives) / Joiners ◀◀◀◀

זָקֵף-קָטוֹן

Zakeif Katon

◀◀◀◀

פֶּשְׁטָא (4.7)

Pashta

◀◀◀◀

זָקֵף-קָטוֹן מוֹנַח (4.8)

Zakeif Katon

◀◀◀◀

Munach

◀◀◀◀

, זָקֵף-קָטוֹן (4.9)

(comma)

Zakeif Katon

◀◀◀◀

, זָקֵף-גָּדוֹל (9.1)

(comma)

Zakeif Gadol

◀◀◀◀

רְבִיעַ מוֹנַח מוֹנַח-לְגַרְמִיָּה | (5.1)

R'vi-a

◀◀◀◀

Munach

◀◀◀◀

Munach L'Garmeih

◀◀◀◀

רְבִיעַ אֶזְלָא קַדְמָא (5.2)

R'vi-a

◀◀◀◀

Azla

◀◀◀◀

Kadma

◀◀◀◀

רְבִיעַ מוֹנַח דְּרָגָא (5.3)

R'vi-a

◀◀◀◀

Munach

◀◀◀◀

Darga

◀◀◀◀

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## Trope Variations

Page 5 of 7

◀◀◀◀ (Disjunctives) / Separators

(Conjunctives) / Joiners ▶▶▶▶

רְבִיעַ

R'vi-a  
◀◀◀◀

מוֹנַח (5.4)

Munach  
◀◀◀◀

,

(comma)

רְבִיעַ (5.5)

R'vi-a  
◀◀◀◀

תְּבִיר

T'vir  
◀◀◀◀

דָּרְגָא

Darga  
◀◀◀◀

קַדְמָא (6.1)

Kadma  
◀◀◀◀

תְּבִיר

T'vir  
◀◀◀◀

מִירְכָא

Meir'cha  
◀◀◀◀

קַדְמָא (6.2)

Kadma  
◀◀◀◀

תְּבִיר

T'vir  
◀◀◀◀

דָּרְגָא (6.3)

Darga  
◀◀◀◀

תְּבִיר

T'vir  
◀◀◀◀

מִירְכָא (6.4)

Meir'cha  
◀◀◀◀

תְּבִיר (6.5)

T'vir  
◀◀◀◀

## Trope Variations

Page 6 of 7

◀◀◀◀ (Disjunctives) / Separators

(Conjunctives) / Joiners ▶▶▶▶

תְּבִיר

T'vir  
◀◀◀◀

דָּרְגָא

Darga  
◀◀◀◀

קַדְמָא

Kadma  
◀◀◀◀

תְּלִישָׁא-קְטַנָּה (8.2)

T'lisha K'tanah  
◀◀◀◀

תְּלִישָׁא-גְדוֹלָה (8.1) מוֹנַח

T'lisha G'dolah  
◀◀◀◀

Munach  
◀◀◀◀

גֵּירֵשׁ (7.2) מוֹנַח

Geireish  
◀◀◀◀

Munach  
◀◀◀◀

גֵּירֵשִׁים (7.3) מוֹנַח

Geir'shayim  
◀◀◀◀

Munach  
◀◀◀◀

פֶּזֶר (10.1) מוֹנַח

Pazeir  
◀◀◀◀

Munach  
◀◀◀◀

מְתִיגָה-זִקְוֶה (10.2)

M'tigah Zakeif  
◀◀◀◀

סוֹף-הַחֵילֶק: (12) מִירְכָּא טִפְחָא מִירְכָּא

Sof HaCheilek  
◀◀◀◀

Meir'cha  
◀◀◀◀

Tip'cha  
◀◀◀◀

Meir'cha  
◀◀◀◀

## Trope Variations

Page 7 of 7

◀◀◀◀ (Disjunctives) / **Separators**

(Conjunctives) / **Joiners** ◀◀◀◀

אֲאֲאֲאֲ

אֲאֲאֲאֲ

מַאֲלָא (10.3)

on **one** word with  
*Etnachta* or *Silluk*

May'la  
◀◀◀◀

,

(comma)

שְׁלִשֶׁת (11.1)

Shalshelet  
◀◀◀◀

תְּבִיר

T'vir  
◀◀◀◀

מֵירְכָא-כְּפֻלָּה

Meir'cha Ch'fulah  
◀◀◀◀

דָּרְגָא (11.2)

Darga  
◀◀◀◀

קַרְנֵי-פָּרָה

Karnei Farah  
◀◀◀◀

יֶרַח בֶּן-יוֹמוֹ (-)

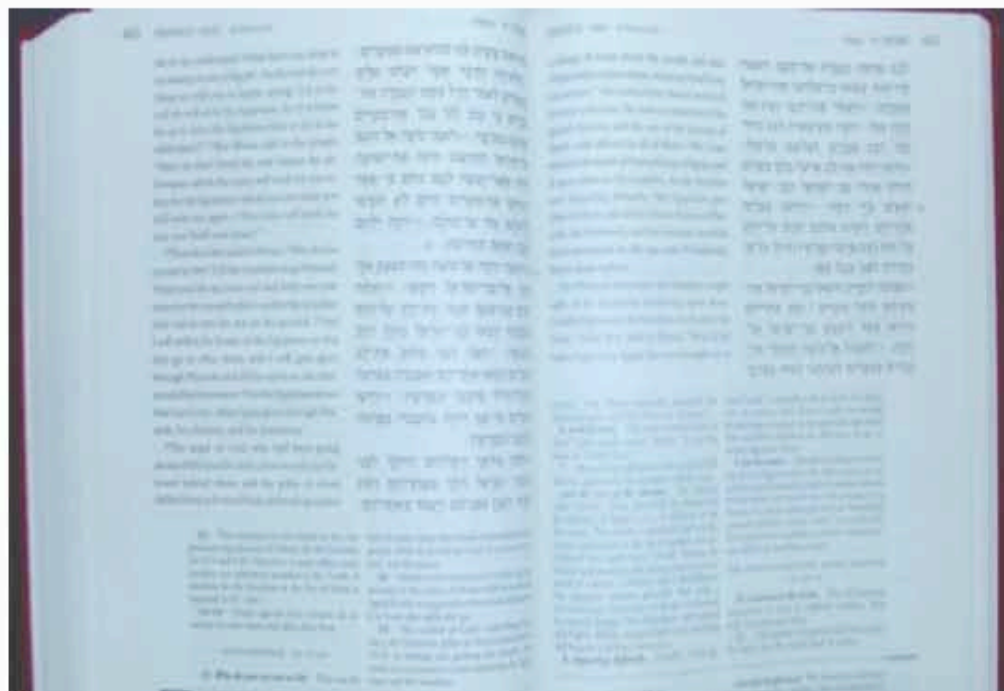
Yerach ben-Yomo  
◀◀◀◀

also called **Galgai**  
and **Pazeir Gadol**

"Carpet Page" of Leningrad Codex; Scribe's name "Shmuel ben Ya'akov"



Printed "*Chumash*" or Pentateuch with Hebrew, English, and commentary



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# Torah Cantillation NLS

arr. Neil Schwartz

Binder / Rosowsky

The musical score is written on seven staves, each with a treble clef and a key signature of one flat (B-flat). The lyrics are written below the notes, with some words connected by horizontal lines to indicate melisma or specific cantillation patterns. The notes are primarily eighth and quarter notes, with some half notes and rests. The lyrics are as follows:

Staff 1: Kad—ma Mah—pach Pash—ta Mu—nach Za—keif Ka—ton,

Staff 2: Meir'—cha Tip'—cha Mu—nach Et—nach—ta;

Staff 3: Meir'—cha Tip'—cha Meir'—cha Sil—luk.

Staff 4: Kad—ma Dar—ga T'—vir Meir'—cha T'—vir

Staff 5: Mu—nach L'—gar—meih Mu—nach R'—vi—a,

Staff 6: Mu—nach Zar—ka Mu—nach Se—gol;

Staff 7: Za—keif Ga—dol, Y'—tiv Mu—nach Za—keif Ka—ton,

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Mu-nach T'-li'-sha K'-ta-nah Mu-nach T'-li--sha G'-do-lah

Kad--ma Az--la Gei-----reish Mu--nach Geir'-sha-yim

Mu--nach Pa--zeir

Shal-she-----let,

Meir'-cha Ch'-fu--lah M'-ti--gah Za---keif,

Meir'-cha Tip'---cha Meir'--cha Sof Ha---Chei---lek.

Ye--rach Ben Yo--mo Kar--nei Fa--rah



# Trope Hierarchies by "Levels"

•	סִילּוֹק	[ 1
;	אַתְנַחֲתָא	[ 1
,	סְגוּלָּה \\ שְׁלֹשֶׁת	[ 2
,	זָקֶף-קְטוֹן \\ זָקֶף-גְּדוֹל	[ 2
	טַפְחָא	[ 2
,	רְבִיעַ	[ 3
	פִּשְׁטָא \\ יְתִיב	[ 3
	זֶרְקָא	[ 3
	תְּבִיר	[ 3
	מוֹנַח-לְגִרְמִיָּה	[ 4
	פְּזָר	[ 4
	תְּלִישָׁא-גְּדוֹלָה	[ 4
	אַזְלָא \\ גְּרִישׁ \\ גְּרִישִׁים	[ 4
	קֶרְנִי-פָּרָה	[ 4
•	(1) [ סוּף-הַחִילָק :	

This is one way to show the "hierarchy" of the Disjunctive segments, with the strongest "pausal power" in "Level 1" at the bottom of each sample "verse".

↑ <b>Level 4</b>	=	<i>L'Garmeih</i>	<i>T'lisha</i>	<i>Pazeir</i>	( <i>Azla</i> )	<i>Geireish / Ger'shayim</i>
↑ <b>Level 3</b>	=	<i>R'vi-a</i> (= ",")		<i>Pashta / Y'tiv</i>	<i>Zarka</i>	<i>T'vir</i>
↑ <b>Level 2</b>	=	<i>Tip'cha</i>	<i>Zakeif Katon / Z.Gadol</i> (= ",")		<i>Segol / Shalsholet</i> (= ",")	
↑ <b>Level 1</b>	=	<i>Silluk</i> (= ".")		<i>Etnachta</i> (= ";")		

Dr. Jacobson uses the terms "nesting" and "stepping" segments to show many details about the relative "pausal power" of the Disjunctives. On the following pages is a simplified version of that technical presentation. For our purposes, it will suffice to say the following:

in **Level 1**, *Silluk* (a "period") is a stronger Disjunctive than *Etnachta* (a "semi-colon").

in **Level 2**, *Tip'cha* is a sub-segment of an *Etnachta* segment and a *Silluk* segment, *Zakeif* is a stronger Disjunctive than *Tip'cha*, *Segol* is a stronger Disjunctive than *Zakeif*, and a *Shalsholet* can substitute for a *Segol* (x4 in the Torah).

in **Level 3**, *Pashta* usually appears as a sub-segment of a *Zakeif Katon* segment, and *Zarka* only appears as a subset of a *Segol* segment; *R'vi-a* is a stronger Disjunctive than *T'vir*, and *T'vir* appears within a *Tip'cha* sub-segment.

in **Level 4**, *L'Garmeih* only appears within a *R'vi-a* segment, but *T'lisha G'dolah*, *Pazeir*, *Azla* or *Geireish*, and *Geirshayim* can all appear in *R'vi-a*, *Pashta*, *Zarka* and *T'vir* segments, to indicate further sub-divisions within those segments.

In order from strongest to weakest "pausal power", here are the Disjunctive *Ta'amei HaMikra*. Please note that various scholars disagree about many aspects of this Trope hierarchy.

<b>Level 1</b> (Emperor)	<i>Silluk</i> <i>Etnachta</i>	<b>Level 4</b> (Officer)	<i>L'Garmeih</i> <i>Pazeir</i> <i>T'lisha G'dolah</i> <i>Geireish / Azla</i> <i>Ger'shayim</i> <i>Karnei Farah</i>
<b>Level 2</b> (King)	<i>Segol / Shalsholet</i> <i>Zakeif Katon / Zakeif Gadol</i> <i>Tip'cha</i>		
<b>Level 3</b> (Duke)	<i>R'vi-a</i> <i>Pashta / Y'tiv</i> <i>Zarka</i> <i>T'vir</i>		
all the other Disjunctives are " <u>Level 4</u> "		<b>Conjunctives:</b>	<i>Munach</i> , <i>Meir'cha</i> , <i>Kadma</i> , <i>Mahpach</i> , <i>T'lisha K'tanah</i> , <i>Darga</i> , <i>Meir'cha Ch'fulah</i> , <i>Yerach ben Yomo</i> (Galgal)

&lt; ----- &lt;

	<b>Silluk</b>	<b>Tip'cha</b>	<b>Etnachta</b>	<b>Tip'cha</b>
Level 2		Tip'cha _____		Tip'cha _____
Level 1	Silluk _____		Etnachta _____	

[ adding *T'vir* ]

&lt; ----- &lt;

	<b>Silluk</b>	<b>Tip'cha</b>	<b>T'vir</b>	<b>Etnachta</b>	<b>Tip'cha</b>	<b>T'vir</b>
Level 3			T'vir _____			T'vir _____
Level 2		Tip'cha _____			Tip'cha _____	
Level 1	Silluk _____			Etnachta _____		

[ sub-dividing *T'vir* ]

&lt; ----- &lt;

	<b>Silluk</b>	<b>Tip'cha</b>	<b>T'vir</b>	<b>T'lisha</b>	<b>Etnachta</b>	<b>Tip'cha</b>	<b>T'vir</b>	<b>Pazeir</b>
Level 4				T'lisha _____				Pazeir _____
Level 3			T'vir _____				T'vir _____	
Level 2		Tip'cha _____				Tip'cha _____		
Level 1	Silluk _____				Etnachta _____			

-----

[ adding *Zakeif* ]

&lt; ----- &lt;

	<b>Silluk</b>	<b>Tip'cha</b>	<b>Zakeif</b>	<b>Etnachta</b>	<b>Tip'cha</b>	<b>Zakeif</b>
Level 2		Tip'cha _____	Zakeif _____		Tip'cha _____	Zakeif _____
Level 1	Silluk _____			Etnachta _____		

[ sub-dividing *Zakeif* ]

&lt; ----- &lt;

	<b>Silluk</b>	<b>Tip'cha</b>	<b>Zakeif</b>	<b>Pashta</b>	<b>Etnachta</b>	<b>Tip'cha</b>	<b>Zakeif</b>	<b>Pashta</b>
Level 3				Pashta _____				Pashta _____
Level 2		Tip'cha _____	Zakeif _____			Tip'cha _____	Zakeif _____	
Level 1	Silluk _____				Etnachta _____			

**Silluk Zakeif Pashta T'lisha Etnachta Zakeif Pashta Pazeir**

Level 4 T'lisha \_\_\_\_ Pazeir \_\_\_\_  
 Level 3 Pashta \_\_\_\_ Pashta \_\_\_\_  
 Level 2 Zakeif \_\_\_\_ Zakeif \_\_\_\_  
 Level 1 Silluk \_\_\_\_ Etnachta \_\_\_\_

-----

[ Zakeif and T'vir ]

&lt; ----- &lt;

**Silluk Tip'cha T'vir Zakeif Pashta Etnachta Zakeif Pashta**

Level 3 T'vir \_\_\_\_ Pashta \_\_\_\_ Pashta \_\_\_\_  
 Level 2 Tip'cha \_\_\_\_ Zakeif \_\_\_\_ Zakeif \_\_\_\_  
 Level 1 Silluk \_\_\_\_ Etnachta \_\_\_\_

[ adding R'vi-a ]

&lt; ----- &lt;

**Silluk Tip'cha T'vir R'vi-a Etnachta Zakeif Pashta R'vi-a**

Level 3 T'vir \_\_\_\_ R'vi-a \_\_\_\_ Pashta \_\_\_\_ R'vi-a \_\_\_\_  
 Level 2 Tip'cha \_\_\_\_ Zakeif \_\_\_\_  
 Level 1 Silluk \_\_\_\_ Etnachta \_\_\_\_

-----

[ adding Segol ]

&lt; ----- &lt;

**Silluk Tip'cha T'vir Etnachta Zakeif Pashta Segol Zarka**

Level 3 T'vir \_\_\_\_ Pashta \_\_\_\_ Zarka \_\_\_\_  
 Level 2 Tip'cha \_\_\_\_ Zakeif \_\_\_\_ Segol \_\_\_\_  
 Level 1 Silluk \_\_\_\_ Etnachta \_\_\_\_

[ sub-dividing Level 3 ]

&lt; ----- &lt;

**Silluk Zakeif Pashta Geresh Etnachta R'via L'Garme Segol Zarka Pazer**

Level 4 T'lisha \_\_\_\_ Geresh \_\_\_\_ L'Garme \_\_\_\_ Pazer \_\_\_\_  
 Level 3 T'vir \_\_\_\_ Pashta \_\_\_\_ R'vi-a \_\_\_\_ Zarka \_\_\_\_  
 Level 2 Tip'cha \_\_\_\_ Zakeif \_\_\_\_ Tip'cha \_\_\_\_ Segol \_\_\_\_  
 Level 1 Silluk \_\_\_\_ Etnachta \_\_\_\_

## The "Four-Step" Method of learning to chant any Biblical text

**Step 1** = read aloud the Hebrew text, with accurate *accents*, *pronunciation* and *phrasing*.

**Step 2** = read aloud the names of the *Ta'amei HaMikra*, in the order they are in the text.

**Step 3** = chant the names of the *Ta'amei HaMikra*, in the order they are found in the text.

**Step 4** = chant the Hebrew text, *substituting* the words of the text for the *Trope names*.

## General Principles about the order of Trope in a Biblical text

1. While *Silluk* is usually the equivalent of a "period" in English grammar, and *Etnachta* is usually the equivalent of a "semi-colon", at times a complete sentence extends over two Bible verses, and sometimes there are two sentences within one verse.
2. If there is an *Etnachta*, there will be a *Silluk* at the end of the verse (one exception).
3. If there is a *Segol*, eventually there will be an *Etnachta*, and a *Silluk* at the verse end.
4. If there is a *Segol*, there are usually *Zakeif Katon* segments before the *Etnachta*; a *Shalsholet* (with no Conjunctives) replaces a *Segol* four times in the Torah.
5. If there is a *Tip'cha*, the very next Disjunctive will be either an *Etnachta* or a *Silluk*.
6. If there is a *Zarka*, the next Disjunctive will be either a *Segol* or another *Zarka*.
7. If there is a *Mahpach*, the next Trope is a *Pashta*, then eventually a *Zakeif Katon*.
8. If there is a *Pashta*, the next Disjunctive is usually a *Zakeif Katon*, but there can also be another *Pashta* or a *Y'tiv*, and *Pashta* can also (rarely) be in other segments.
9. If there is a *Y'tiv* replacing a *Pashta*, the next Disjunctive will usually be *Zakeif Katon*.
10. *Zakeif Katon* (or *Zakeif Gadol*, with no Conjunctives) is usually followed by a *Tip'cha* leading to an *Etnachta* or a *Silluk*, or by another *Zakeif Katon* (or a *Zakeif Gadol*).
11. If there is a *T'vir*, the next Disjunctive will be a *Tip'cha* (or occasionally another *T'vir*).
12. If there is a *Darga*, the next Disjunctive will be either a *T'vir* or occasionally a *R'vi-a*.
13. A *R'vi-a* might lead to a *T'vir* ... *Tip'cha*, a *Pashta* ... *Zakeif Katon*, or a *Zarka* ... *Segol*.
14. If there is a *Munach L'Garmeih*, the next Disjunctive is a *R'vi-a* (or another *L'Garmeih*).
15. *T'lisha G'dolah* or *Pazeir* is often followed by *Azla* // *Geireish* (or *Ger'shayim*) and then by *Pashta* ... *Zakeif Katon*, *Zarka* ... *Segol*, *T'vir* ... *Tip'cha*, or *L'Garmeih* ... *R'vi-a*.
16. *Y'tiv*, *Zakeif Gadol*, and *Shalsholet* cannot be preceded immediately by Conjunctives.
17. *T'lisha K'tanah* is followed immediately by a *Kadma* (per Jacobson 2002, pg. 400).
18. There are occasional Trope differences among *Chumash*, *Tikkun*, & *TaNakh* texts.

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## Munach combinations

◀◀◀◀◀ Disjunctives / Separators

Conjunctives / Joiners ◀◀◀◀◀

אַתְּנַחְתָּא

Etnachta

◀◀◀◀◀

מוֹנַח

Munach

◀◀◀◀◀

טִפְחָא (1)

Tip'cha

◀◀◀◀◀

סֶגוֹל

Segol

◀◀◀◀◀

מוֹנַח

Munach

◀◀◀◀◀

זֶרְקָא

Zarka

◀◀◀◀◀

מוֹנַח (2)

Munach

◀◀◀◀◀

זָקֵיף-קָטוֹן

Zakeif Katon

◀◀◀◀◀

מוֹנַח

Munach

◀◀◀◀◀

פִּשְׁטָא (3)

Pashta

◀◀◀◀◀

רְבִיעַ

R'vi-a

◀◀◀◀◀

מוֹנַח (4)

Munach

◀◀◀◀◀

פָּזֵיר

Pazeir

◀◀◀◀◀

מוֹנַח

Munach

◀◀◀◀◀

///

///

תְּלִישָׁא-גְדוֹלָה

T'lisha G'dolah

◀◀◀◀◀

מוֹנַח (5)

Munach

◀◀◀◀◀

## Appendix D – Chapter 4-a

### Structure and Development of Jewish Liturgy

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## Development of Jewish Liturgy

### Biblical prayers

**Praise** to God for **Creation** and involvement in the lives of people - many of the Psalms.  
**Thanks** for **Revelation** and for specific interventions - "*Mi Chamocha*" in "*Shirat HaYam*".  
**Petition** for **Redemption** and for God's help - Hannah for a child, Jacob's fear of Esau.  
Early liturgy led by the Levites accompanied animal sacrifices in the ancient 1st Temple.

### Establishment of synagogues

Some scholars believe synagogues began during the Babylonian Exile (586-538 B.C.E.).  
New worship rubrics developed which were not directly dependent on animal sacrifices.  
During the 2nd Temple period, the synagogue and Jewish liturgy continued to develop.  
This liturgy included *Torah* chanting, Psalms, the Ten Commandments, and the *Sh'ma*.

### A Diaspora institution

After the Romans destroyed the 2nd Temple in 70 C.E., animal sacrifices were abolished.  
*Worship services* replaced the time-bound animal sacrifices, ensuring continuity in Exile.  
The outlines of Jewish liturgy were codified around 100 C.E. by Rabbi Gamliel II in Israel.  
*Trope* symbols and vowel marks were added to the consonantal *TaNaKh* text in the 800's.

### The first Siddurim

Spontaneous prayer led by *Hazzanim* was within the fixed outlines of the Jewish liturgy.  
Over time and distance, oral traditions of liturgy became weakened during the Dark Ages.  
Rav Amram Gaon's *Responsa* to Barcelona about 865 C.E. was the first written *Siddur*.  
Rav Saadia Gaon's *Siddur* (early 900's) was the first *Siddur* meant for use by worshipers.

### Enriching the Liturgy

Religious poems (*Piyyutim*) were added to the core Jewish liturgy during the Middles Ages.  
"*Nusach HaT'fillah*" or "musical prayer modes" developed to chant various types of liturgy.  
Medieval musical settings called "*MiSinai Tunes*" became associated with specific prayers.  
*Nusach* motifs and *MiSinai Tunes* from Central Europe later migrated to Eastern Europe.

### Early attempts at Reform

The development of the printing press made *Siddurim* available at an economical price.  
In the 1800's some *Siddurim* in Germany, Britain and America now included translations.  
*Choral music* was introduced in European synagogues, along with sermons and the organ.  
Prayers were done in Hebrew and the vernacular, and congregational melodies developed.

### Turn of the Century

New *Siddurim* and *Machzorim* are removing many *Piyyutim* that had gradually been added.  
The ancient sacrifices and *gender-neutral* texts and translations are ongoing textual issues.  
There is a tension between the desire for innovation and for closer adherence to traditions.  
English prayers, transliteration, instruments, metric melodies, and lay leadership are issues.



### Why should we pray at all?

People may feel a need to talk to God: to **ask for help** dealing with problems,  
to **express thanks** when things go well,  
to **express praise** for natural beauty.

People may feel a need to gather together with other Jews in a shared common activity.

People may need respite from the rush of life, and they find comfort in worship services.

### To Whom are we praying?

To the **Creator** of the Universe: a **Force**, a **Power**, a **Spirit**; considered by many  
to be *Omnipotent*, *Omniscient*, and *Omnipresent*.

To the **Revealer** of our Torah: the **Source** of morality and rules for upright living,  
Whose intervention in the World we see in our lives.

To the **Redeemer** of the World: Who **oversees** the linear direction of History, and  
from Whom we can ask for help and forgiveness.

We **praise** God for ongoing orderly **Creation** of the world;  
we **thank** God for **tRevelation** and involvement with our lives;  
we **petition** God for peace and **Redemption** of the world.

### Why do set prayer texts?

The basic things that people have wanted to say to God are all in our worship services.

If left only to our own imagination, we would probably do mostly petitionary prayers.

The liturgy approaches prayer not from our world-view, but from a Jewish world-view.

A set text reinforces the communal nature of prayer and prevents chaos during worship.

### Why pray at set times?

If we do not set aside regular times to pray, we may not be moved to worship regularly.

Set times facilitate the gathering of a *Jewish community* for worship on a regular basis.

The discipline of regular worship creates the possibility of true meaning and intention.

Regular worship frames the day, week, and year for individuals and for the community.

### Why pray mostly in Hebrew?

Hebrew connects “vertically” back through time with our ancestors and ancient heritage. Hebrew connects “horizontally” now with world Jewish communities who pray similarly. Hebrew helps maintain a *group identity* as we pray together, because it is our tradition. The sounds of the Hebrew may bring comfort even if the literal meanings are unknown.

### Why pray in a synagogue?

Gathering for synagogue prayer facilitates community and encourages regular worship. While Judaism sanctifies “sacred time”, “sacred **space**” is conducive to sincere prayer. Hebrew for “synagogue” (*Beit K’neset*) [Greek “*Synagoga*”] is “House of Assembly”. Prayers may be said anywhere, but a synagogue ambience may increase their impact.

### Why chant the prayers?

Music speaks to the soul better than speech, and may bring comfort to the worshipper. The music of the liturgy ties to the emotions of the text, and expresses the text’s moods. Chanting shows the phrasing of the Hebrew texts, reflecting their grammar and syntax. Music acts as a unifying force for the congregation and connects us with our traditions.

### Why chant traditional music?

*Nusach* helps **identify** the occasion of the worship service: holiday, Shabbat, weekday. *Nusach* delineates the **structure** of the liturgy and enhances the **meaning** of the text. Traditional melodies differentiate and reflect the changing moods within each service. Using traditional melodies maintains the **dignity** of worship while forestalling boredom.

**Beauty:** the concept “*hiddur mitzvah*”, making a ritual beautiful, is increased by chant.

**Emotion:** chanting the musical motifs indicates and heightens the emotions in the text.

**Power:** chanting has built-in “vocal projection” which communicates the liturgical texts.

**Integrity:** chanting the *Nusach HaT’fillah* shows the phrasing and meaning of the text.

**Music:** it is more engaging to chant a text rather than read it – it heightens inflections.

## Basic sections of the **Weekday** Services

### *Arvit L'Chol*

Preliminary verse

*Sh'ma uVirchoteha*

*Chatzi Kaddish*

*Arvit Amidah*

*Kaddish Shaleim*

Conclusion

### Weekday Evening Service

*Sh'ma* and its Blessings

standing silent prayers

*Aleinu*, Mourners' *Kaddish*

### *Shacharit L'Chol*

Preliminary sections

*Birchot HaShachar*

*P'sukei D'Zimra*

*Chatzi Kaddish*

*Shacharit*

*Sh'ma uVirchoteha*

*Shacharit Amidah*

*Tachanun*

(*Hallel*)

*Chatzi Kaddish*

*Torah Service*

(*Musaf*)

*Kaddish Shaleim*

Conclusion

### Weekday Morning Service

Blessings of the Dawn

Verses of Song (Psalms)

(main body of the service)

*Sh'ma* and its Blessings

standing silent / aloud prayers

Penitential verses

[ *Rosh Chodesh, Chol HaMoed, Hanukkah* ]

Mondays and Thursdays

[ *Rosh Chodesh, Chol HaMoed* ]

*Aleinu*, Mourners' *Kaddish*

### *Minchah L'Chol*

Preliminary Psalm

*Chatzi Kaddish*

*Minchah Amidah*

*Tachanun*

*Kaddish Shaleim*

Conclusion

### Weekday Afternoon Service

standing silent / aloud prayers

Penitential verses

*Aleinu*, Mourners' *Kaddish*

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## Structure of the **Weekday** Morning Service

### Preliminary sections

*Birchot HaShachar*

*P'sukei D'Zimra*

*Baruch She-Amar*

*Psalms*

*Yishtabach*

*Chatzi Kaddish*

*Shacharit L'Chol*

***Sh'ma uVirchoteha***

*Bar'chu/Baruch*

*Yotzeir Or/Or Chadash*

*Ahavah Rabbah*

*Sh'ma/V'ahavta ...*

*Ga-al Yisrael*

***Shacharit Amidah***

*Avot/Imahot*

*G'vurot*

*K'dushat HaShem*

13 petitionary prayers

*Avodah*

*Hoda-ah*

*(Birkat Kohanim)*

*Birkat Shalom*

*Tachanun*

*(Hallel)*

*Chatzi Kaddish*

Torah Service

Hotza-at HaTorah

K'ri-at HaTorah

Hachnasat HaTorah

*Ashrei, K'dushah D'Sidra*

*(Musaf)*

*Kaddish Shaleim*

Conclusion

*Aleinu*

*Kaddish Yatom*

Blessings of the Dawn

Verses of Song

"we will praise You"

including *Ashrei* (Ps. 145)

"we did praise You"

(main body of the service)

*Sh'ma* and its Blessings

Call to Worship

Creation

Revelation

3 paragraphs

Redemption

standing silent / aloud prayers

Ancestors

God's Powers

God's Holiness

(weekdays only)

Acceptance

Thanksgiving

(Repetition only)

Grant Peace

Penitential verses

[ *Rosh Chodesh, Chol HaMoed, Hanukkah* ]

Mondays and Thursdays

Remove Torah

Chant Torah

Return Torah

Extra verses of praise

[ *Rosh Chodesh, Chol HaMoed* ]

Mourners' Kaddish

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## Basic sections of the **Shabbat** Services

### **Arvit L'Shabbat**

*Kabbalat Shabbat*

Mourners' *Kaddish*

*Sh'ma uVirchoteha*

*Chatzi Kaddish*

*Arvit Amidah*

*M'ein Sheva*

*Kaddish Shaleim*

Conclusion

### **Shabbat Evening Service**

Preliminary Psalms

*Sh'ma* and its Blessings

standing silent prayers

prayers from the *Amidah*

*Aleinu*, Mourners' *Kaddish*, *Yigdal*

### **Shacharit L'Shabbat**

Preliminary sections

[ *expanded from Weekday Preliminary* ]

*Birchot HaShachar*

Blessings of the Dawn

*P'sukei D'Zimra*

Verses of Song (Psalms)

*Chatzi Kaddish*

*Shacharit*

(main body of the service)

*Sh'ma uVirchoteha*

*Sh'ma* and its Blessings

*Shacharit Amidah*

standing silent / aloud prayers

(*Hallel*)

[ *Rosh Chodesh, Chol HaMoed, Hanukkah* ]

*Kaddish Shaleim*

*Torah* Service

including *Haftarah* and English readings

*Chatzi Kaddish*

*Musaf Amidah*

[ represents additional Temple sacrifice ]

*Kaddish Shaleim*

Conclusion

*Aleinu*, Mourners' *Kaddish*, *Adon Olam*

### **Minchah L'Shabbat**

Preliminary Psalm

### **Shabbat Afternoon Service**

*Ashrei* (Psalm 145) + *Uva L'Tziyon*

*Chatzi Kaddish*

*Torah* reading

3 *Aliyot* from upcoming *Parashah*

*Chatzi Kaddish*

*Minchah Amidah*

standing silent / aloud prayers

*Kaddish Shaleim*

Conclusion

*Aleinu*, Mourners' *Kaddish*

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## Structure of the **Shabbat** Morning Service

### Preliminary sections

*Birchot HaShachar*

Mourners' *Kaddish*

Blessings of the Dawn

*P'sukei D'Zimra*

Verses of Song

*Baruch She-Amar*

Psalms

*Shochein Ad / Yishtabach*

"we **will** praise You"

including *Ashrei* (Ps. 145)

"we **did** praise You"

*Chatzi Kaddish*

*Shacharit L'Shabbat*

(main body of the service)

**Sh'ma uVirchoteha**

*Sh'ma* and its Blessings

*Bar'chu / Baruch*

*Yotzeir Or / Or Chadash*

*Ahavah Rabbah*

*Sh'ma / V'ahavta ...*

*Ga-al Yisrael*

Call to Worship

**Creation**

**Revelation**

3 paragraphs

**Redemption**

**Shacharit Amidah**

standing silent / aloud prayers

*Avot / Imahot*

*G'vurot*

*K'dushat HaShem*

*K'dushat Hayom*

*Avodah*

*Hoda-ah*

*(Birkat Kohanim)*

*Birkat Shalom*

Ancestors

God's Powers

God's Holiness

**(Revelation theme)**

Acceptance

Thanksgiving

*(Repetition only)*

Grant Peace

*(Hallel)*

[ *Rosh Chodesh, Chol HaMoed, Hanukkah* ]

*Kaddish Shaleim*

### **Torah Service**

*Hotza-at HaTorah*

*K'ri-at HaTorah / Haftarah*

*Hachnasat HaTorah*

Remove *Torah* scroll

Chant *Torah / Haftarah*

*Ashrei*, Return *Torah* scroll

*Chatzi Kaddish*

*Musaf Amidah*

[ *similar to Shacharit Amidah* ]

*Kaddish Shaleim*

### Conclusion

*Ein Keiloheinu*

*Aleinu*

*Kaddish Yatom*

*(Mourners' Kaddish)*

*Adon Olam*

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## Basic sections of the *Rosh Hashanah* Services

### **Arvit L'Rosh Hashanah**

*Mah Tov*, (Ps. 92 & 93)

*Sh'ma uVirchoteha*

*Arvit Amidah*  
(*M'ein Sheva*)

Conclusion

*Chatzi Kaddish*

*Kaddish Shaleim*

### **Rosh Hashanah Evening Service**

Preliminary, (2 Psalms if *Shabbat*)

*Sh'ma* and its Blessings

standing silent prayers  
(from *Amidah* if *Shabbat*)

*Kiddush*, *Aleinu*, Ps. 27, *Kaddish*, *Yigdal*

### **Shacharit L'Rosh Hashanah**

Preliminary sections

*Birchot HaShachar*  
*P'sukei D'Zimra*

*Chatzi Kaddish*

*Shacharit*

*Sh'ma uVirchoteha*  
*Shacharit Amidah*  
*Avinu Malkeinu*

*Kaddish Shaleim*

*Torah / Shofar Service*

*Chatzi Kaddish*

*Musaf Amidah*

*Malchuyot*  
*Zichronot*  
*Shofrot*

*Kaddish Shaleim*

Conclusion

### **Rosh Hashanah Morning Service**

[ *expanded from Weekday Preliminary* ]

Blessings of the Dawn  
Verses of Song (Psalms)

(main body of the service)

*Sh'ma* and its Blessings  
standing silent / aloud prayers  
(except on *Shabbat*)

including *Haftarah* and *Shofar* blowing

[ 9 sections instead of usual 7 sections]

Sovereignty verses  
Remembrance verses  
*Shofar* verses

*Aleinu*, *Kaddish Yatom*, *Adon Olam*

### **Minchah L'Rosh Hashanah**

Preliminary Psalm

(Torah reading)

*Minchah Amidah*  
*Avinu Malkeinu*

Conclusion

*Chatzi Kaddish*

*Chatzi Kaddish*

*Kaddish Shaleim*

### **Rosh Hashanah Afternoon Service**

*Ashrei* (Psalm 145) + *Uva L'Tziyon*

(*Parashat HaAzinu* x3 if *Shabbat*)

standing silent / aloud prayers  
(except on *Shabbat*)

*Aleinu*, Mourners' *Kaddish*

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## Structure of *Rosh Hashanah* Evening & Afternoon Services

### **Arvit L'Rosh Hashanah**

#### **Preliminary Section**

*Mah Tov*  
(Psalms, if Shabbat)

#### **Sh'ma uVirchoteha**

*Bar'chu / Baruch*  
*HaMa-ariv Aravim*  
*Ahavat Olam*  
*Sh'ma / V'ahavta ...*  
*Ga-al Yisrael*  
*Hashkiveinu*  
(*V'sham'ru*)  
*Tik'u vaChodesh*

#### **Arvit Amidah**

(*M'ein Sheva*)

#### **Conclusion**

*Aleinu*  
*L'David ... Ori*  
*Yigdal*

*Chatzi Kaddish*

*Kaddish Shaleim*

*Kaddish Yatom*

### **Rosh Hashanah Evening Service**

Preliminary paragraph  
(Psalms **92** & **93**)

*Sh'ma* and its Blessings

Call to Worship  
**Creation**  
**Revelation**  
3 paragraphs  
**Redemption**  
Protection  
(if *Shabbat*)  
"Sound the Shofar"

standing silent prayers  
(**Rosh Hashanah** themes)  
(from Fri. eve. *Amidah* if *Shabbat*)

**Kiddush** + Shehecheyanu  
(add *Havdalah* if Sat. eve.)

(Mourners' *Kaddish*)  
Psalm **27**

### **Minchah L'Rosh Hashanah**

Preliminary Psalm

(*Torah* reading if Shab.)

**Minchah Amidah**  
*Avinu Malkeinu*

Conclusion  
*Aleinu*

#### **Tashlich**

*Chatzi Kaddish*

(*Chatzi Kaddish*)

*Kaddish Shaleim*

*Kaddish Yatom*

### **Rosh Hashanah Afternoon Service**

*Ashrei* (Psalm **145**) + *Uva L'Tziyon*

(*Parashat HaAzinu* x3, if *Shabbat*)

standing silent / aloud prayers  
(except on *Shabbat*)

(Mourners' *Kaddish*)

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## Structure of *Rosh Hashanah Shacharit* and *Musaf* Services

<b>Preliminary</b>		
<i>Birchot HaShachar</i> <i>L'David ... Ori</i>		Blessings of the Dawn Psalm <b>27</b> ( <u>or</u> at end of <i>Musaf</i> )
	Mourners' <i>Kaddish</i>	
<i>P'sukei D'Zimra</i>  <i>Baruch She-Amar</i> Psalms <b>HaMelech</b> / <i>Yishtabach</i>		Verses of Song  "we <b>will</b> praise You" including <i>Ashrei</i> (Ps. <b>145</b> ) "we <b>did</b> praise You"
<b>Shacharit</b> <i>Chatzi Kaddish</i>		
<b>Sh'ma uVirchoteha</b>  <i>Bar'chu / Baruch</i> <i>Yotzeir Or / Or Olam</i> ( <i>HaKol / Eil Adon</i> ) [ <i>Piyyutim</i> ] <i>Or Chadash</i> <i>Ahavah Rabbah</i> <i>Sh'ma / V'ahavta ...</i> <i>Ga-al Yisrael</i>		<i>Sh'ma</i> and its Blessings  Call to Worship <b>Creation</b> (if <i>Shabbat</i> ) [ in Orthodox <i>Machzorim</i> ] (end of <b>Creation</b> prayer) <b>Revelation</b> 3 paragraphs <b>Redemption</b>
<b>Shacharit Amidah</b> [ <u>silent Amidah</u> in <b>BOLD</b> ]		standing, <u>silent</u> , repeated <u>aloud</u>
<b>Avot / Imahot</b> <i>Misod / Piyyutim</i> <b>Zochreinu L'Chayim</b> <b>G'vurot</b> <b>Mi Chamocha Av ...</b> <i>Piyyutim:</i> <i>Yimloch ... Atah Hu</i> <i>... Melech ... Malach</i> <i>L'Eil Orech Din</i> <b>K'dushat HaShem</b> <b>UvChein ... x3</b> <b>Kadosh Atah</b> <b>K'dushat Hayom</b> <b>Atah Bachartanu</b> <b>... Ya-aleh v'Yavo</b> <b>Eloheinu ... M'loch</b> <b>Avodah</b> <b>Hoda-ah</b> <b>uChtov l'Chayim</b> ( <i>Birkat Kohanim</i> ) <b>Birkat Shalom</b> <b>b'Sefer Chayim</b>		Ancestors (Repetition only) "Remember us for Life" God's Powers "Who is like You ... ?" [ Medieval religious poetry ] (antiphonal with Cong.) (Cong. responsively) (Leader repeats Cong.) God's Holiness ( <i>K'dushah</i> ) (extension of <i>K'dushah</i> ) (ends <i>HaMelech HaKadosh</i> ) ( <b>Rosh Hashanah</b> themes) "You chose us ..." "... recall our Ancestors" "... reign over the World" Acceptance ( <i>R'tzei ... b'am'cha</i> ) Thanksgiving ( <i>Modim anachnu</i> ) "Inscribe us for Life" (Repetition only) Num. 6:24-26 Grant Peace ( <i>Sim Shalom</i> ) "In the Book of Life"
	<i>Kaddish Shaleim</i>	

**Torah Service***Hotza-at HaTorah* (take out Torah)*K'ri-at HaTorah / Haftarah***Shofar** Blowing*Hachnasat HaTorah* (return Torah)(... *vaAni Chol, Bei Ana Shabbat*)Chant *Torah / Haftarah*(starts with 7 verses & 2 *Brachot*)(Ps. **24** *Chol*, Ps. **29** *Shabbat*)**Musaf** Chatzi Kaddish*Hin'ni* (Leader's supplication)(may be after silent *Amidah*)**Musaf Amidah** [ silent *Amidah* in **BOLD** ]standing, silent, repeated aloud**Avot / Imahot***Misod / Piyyutim***Zochreinu L'Chayim****G'vurot****Mi Chamocha Av ...***Untaneh Tokef**b'Rosh Hashanah***K'dushat HaShem***v'Chol Ma-aminim***UvChein ... x3****Kadosh Atah****... Melech Rachaman***Ochilah LaEil***Malchuyot Aleinu L'Shabe-ach****Malchuyot verses x10***Eloheinu ... M'loch / Areshet***Zichronot Atah Zocheir****Zichronot verses x10***Eloheinu ...Zochreinu / Areshet***Shofrot Atah Nigleita****Shofrot verses x10***Eloheinu ... M'loch / Areshet***Avodah****Hoda-ah****uChtov l'Chayim**

(Birkat Kohanim)

**Birkat Shalom****b'Sefer Chayim***HaYom T'am'tzeinu*

Ancestors

(Repetition only)

"Remember us for Life"

God's Powers

"Who is like You ... ?"

(includes *UvShofar Gadol*)(includes *Ki k'Shimcha*)God's Holiness (*K'dushah*)(*Piyyut* - Repetition only)(extension of *K'dushah*)(ends *HaMelech HaKadosh*)

"... Merciful Sovereign"

(Repetition only)

(Leader prostrate in Repetition)

Sovereignty verses

"... reign over the World"

"You remember Creation"

Remembrance verses

"... remember us favorably"

"You revealed Yourself"

*Shofar* (Redemption) verses"... sound the great *Shofar*"Acceptance (*R'tzei ... b'am'cha*)Thanksgiving (*Modim anachnu*)

"Inscribe us for Life"

(Repetition only) Num. 6:24-26

Grant Peace (*Sim Shalom*)

"In the Book of Life"

"Today strengthen us"

*Kaddish Shaleim***Conclusion***Ein Keiloheinu**Aleinu**Kaddish Yatom*(Mourners' *Kaddish*)*L'David ... Ori*Psalm **27** (or in Preliminary Serv.)*Adon Olam*

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## Basic sections of the *Yom Kippur* Services

### **Arvit L'Yom Kippur**

*Kol Nidrei*, (Ps. 92 & 93)  
*Sh'ma uVirchoteha*

*Chatzi Kaddish*

*Arvit Amidah*  
(*M'ein Sheva*)  
*S'lichot / Vidui*  
*Avinu Malkeinu*

*Kaddish Shaleim*

Conclusion

### **Yom Kippur Evening Service**

Preliminary, (2 Psalms if *Shabbat*)  
*Sh'ma* and its Blessings

standing silent prayers  
(from *Amidah* if *Shabbat*)  
prayers asking for forgiveness  
(except on *Shabbat*)

*Aleinu*, Ps. 27, *Kaddish*, *Yigdal*

### **Shacharit L'Yom Kippur**

Preliminary sections  
*Birchot HaShachar*  
*P'sukei D'Zimra*

*Chatzi Kaddish*

*Shacharit*  
*Sh'ma uVirchoteha*  
*Shacharit Amidah*  
*S'lichot / Vidui*  
*Avinu Malkeinu*

*Kaddish Shaleim*

*Torah / Yizkor Service*

*Chatzi Kaddish*

*Musaf Amidah*  
*Avodah Service*  
*Martyrology*  
*S'lichot / Vidui*

*Kaddish Shaleim*

### **Yom Kippur Morning Service**

Blessings of the Dawn  
Verses of Song (Psalms)

*Sh'ma* and its Blessings  
standing silent / aloud prayers  
prayers asking for forgiveness  
(except on *Shabbat*)

including *Haftarah* and Memorial Service

standing silent / aloud prayers  
Service of the High Priest  
Ten Sages, Holocaust  
prayers asking for forgiveness

### **Minchah L'Yom Kippur**

*Torah reading*

*Chatzi Kaddish*

*Minchah Amidah*

*Kaddish Shaleim*

### **Yom Kippur Afternoon Service**

(*Haftarah* is the Book of Jonah)

standing silent / aloud prayers

### **N'ilah L'Yom Kippur**

Preliminary Psalm

*Chatzi Kaddish*

*N'ilah Amidah*  
*S'lichot / Vidui*  
*Avinu Malkeinu*

*Kaddish Shaleim*

Conclusion

### **Yom Kippur Concluding Service**

*Ashrei* (Psalm 145) + *Uva L'Tziyon*

standing silent / aloud prayers  
prayers asking for forgiveness  
(including on *Shabbat*)

*Aleinu*, Mourners' *Kaddish*, *Havdalah*

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## Structure of *Yom Kippur* Evening Service

### Arvit L'Yom Kippur

### Yom Kippur Evening Service

#### Preliminary Section

*Tallit Brachah*  
*Or Zarua LaTzaddik*  
*Bshivah shel Ma-alah*  
*Kol Nidrei*  
*v'Nislach / Shehecheyanu*  
 (2 Psalms, if Shabbat)

(worn for *Kol Nidrei* & *Neilah*)  
 (traditionally repeated x7)  
 (traditionally repeated x3)  
 (traditionally repeated x3)

(Psalms **92** & **93**)

#### Sh'ma uVirchoteha

*Bar'chu / Baruch*  
*HaMa-ariv Aravim*  
*Ahavat Olam*  
*Sh'ma / V'ahavta ...*  
*Ga-al Yisrael*  
*Hashkiveinu*  
 (V'sham'ru)  
*Ki vaYom haZeh*

#### Sh'ma and its Blessings

Call to Worship  
**Creation**  
**Revelation**  
 (*Baruch Shem* aloud)  
**Redemption**  
 Protection  
 (if *Shabbat*)  
 "For on this day"

#### Chatzi Kaddish

#### Arvit Amidah

*S'lichot / Vidui* [ before *R'tzei* in *Amidah* ]  
 (*M'ein Sheva*)

#### standing silent prayers

prayers asking for forgiveness  
 (from Fri. eve. *Amidah* if *Shabbat*)

#### Piyyutim:

*Ya-aleh ... MeiErev*  
*Shomei-a / L'chu / haN'shama*  
*Ki Hinei kaChomer*

#### [ Medieval religious poetry ]

"May our supplication rise"  
 "God Who hears prayers"  
 "Recall Your Covenant"

#### S'lichot / Vidui:

*El Melech Yosheiv*  
*Sh'ma Koleinu*  
*Ki Anu Amecha*  
*... Tavo / Ashamnu*  
*... S'lach Umchal*  
*Al Cheit / v'Al Kulam*  
*Mi SheAnah ... Hu YaAneinu*  
*Avinu Malkeinu*

#### prayers asking for forgiveness

"God, our Sovereign"  
 "Hear our voices"  
 "We are Your People"  
 "We have sinned ..."  
 "... forgive and pardon"  
 (alphabetical acrostic)  
 "God Who has answered ..."  
 (except on *Shabbat*)

#### Kaddish Shaleim

#### Conclusion

*Aleinu*

#### Kaddish Yatom

(Mourners' *Kaddish*)  
 Psalm **27**

*L'David ... Ori*

*Yigdal*

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## Structure of *Yom Kippur Shacharit* and *Musaf* Services

<b>Preliminary</b>		
<i>Birchot HaShachar</i> L'David ... Ori		Blessings of the Dawn Psalm <b>27</b> (or at end of <i>Musaf</i> )
	Mourners' <i>Kaddish</i>	
<i>P'sukei D'Zimra</i> Baruch She-Amar Psalms <b>HaMelech</b> / <i>Yishtabach</i>		Verses of Song "we <b>will</b> praise You" including <i>Ashrei</i> (Ps. <b>145</b> ) "we <b>did</b> praise You"
<b>Shacharit</b> <i>Chatzi Kaddish</i>		
<b>Sh'ma uVirchoteha</b> Bar'chu / Baruch Yotzeir Or / Or Olam (HaKol / Eil Adon) [ <i>Piyyutim</i> ] Or Chadash Ahavah Rabbah Sh'ma / V'ahavta ... Ga-al Yisrael		<i>Sh'ma</i> and its Blessings Call to Worship <b>Creation</b> (if <i>Shabbat</i> ) [ in Orthodox <i>Machzorim</i> ] (end of <b>Creation</b> prayer) <b>Revelation</b> (Baruch <i>Shem</i> aloud) <b>Redemption</b>
<b>Shacharit Amidah</b> [ <u>silent Amidah</u> in <b>BOLD</b> ]		standing, <u>silent</u> , repeated <u>aloud</u>
<b>Avot / Imahot</b> Misod / <i>Piyyutim</i> <b>Zochreinu L'Chayim</b> <b>G'vurot</b> <b>Mi Chamocha Av ...</b> <i>Piyyutim</i> : Yimloch ... Atah Hu L'Eil Orech Din		Ancestors (Repetition only) "Remember us for Life"
<b>K'dushat HaShem</b> <b>UvChein ... x3</b> <b>Kadosh Atah</b> <b>K'dushat Hayom</b> <b>Atah Bachartanu</b> <b>... Ya-aleh v'Yavo</b> <b>S'lichot / Vidui</b> : [ at end of <u>silent Amidah</u> ] Eil Melech Yosheiv Sh'ma Koleinu Ki Anu Amecha ... Tavo / Ashamnu ... S'lach Umchal Al Cheit / v'Al Kulam <b>Eloheinu ... M'chal</b>		God's Powers "Who is like You ... ?" (antiphonal with Cong.) (Leader repeats Cong.) God's Holiness ( <i>K'dushah</i> ) (extension of <i>K'dushah</i> ) (ends <i>HaMelech HaKadosh</i> ) ( <b>Yom Kippur</b> themes) "You chose us ..." "... recall our Ancestors" prayers asking for forgiveness "God, our Sovereign" "Hear our voices" "We are Your People" "We have sinned ..." "... forgive and pardon" (alphabetical acrostic) "... pardon our iniquities"
<b>Avodah</b> <b>Hoda-ah</b> <b>uChtov l'Chayim</b>		Acceptance ( <i>R'tzei ... b'am'cha</i> ) Thanksgiving ( <i>Modim anachnu</i> ) "Inscribe us for Life"

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(Birkat Kohanim)  
**Birkat Shalom**  
**b'Sefer Chayim**  
 Avinu Malkeinu

*Kaddish Shaleim*

**Torah Service**

*Hotza-at HaTorah* (take out Torah)  
*K'ri-at HaTorah / Haftarah*

**Yizkor Service**

*Hachnasat HaTorah* (return Torah)

(Repetition only) Num. 6:24-26  
 Grant Peace (*Sim Shalom*)  
 "In the Book of Life"  
 (except on *Shabbat*)

(... *vaAni Chol, Bei Ana Shabbat*)  
 Chant Torah / Haftarah  
 (individual *Yizkors* & *Eil Malei*)  
 (Ps. **24** *Chol*, Ps. **29** *Shabbat*)

**Musaf** Chatzi Kaddish

*Hin'ni* (Leader's supplication)

(may be after silent *Amidah*)

**Musaf Amidah** [ silent *Amidah* in **BOLD** ]

standing, silent, repeated aloud

**Avot / Imahot**

*Misod / Piyyutim*  
**Zochreinu L'Chayim**

**G'vurot**

**Mi Chamocha Av ...**  
*Untaneh Tokef*  
*b'Rosh Hashanah*

**K'dushat HaShem**

*v'Chol Ma-aminim*  
**UvChein ... x3**  
**Kadosh Atah**

**... Melech Rachaman**

*Aleinu L'Shabe-ach*

*Ochilah LaEil*

*Avodah Service*

*Martyrology*

**S'lichot / Vidui:** [ at end of silent *Amidah* ]

*Ki Anu Amecha*

*... Tavo / Ashamnu* [ see *Shacharit*

*Al Cheit / v'Al Kulam* for complete list ]

**Eloheinu ... M'chal**

**Avodah**

**Hoda-ah**

**uChtov I'Chayim**

(Birkat Kohanim)

**Birkat Shalom**

**b'Sefer Chayim**

*HaYom T'am'tzeinu*

*Kaddish Shaleim*

NO *Aleinu*

Ancestors

(Repetition only)

"Remember us for Life"

God's Powers

"Who is like You ... ?"

(includes *UvShofar Gadol*)

(includes *Ki k'Shimcha*)

God's Holiness (*K'dushah*)

(*Piyyut* - Repetition only)

(extension of *K'dushah*)

(ends *HaMelech HaKadosh*)

"... Merciful Sovereign"

(Leader prostrate in Repetition)

(Repetition only)

Service of the High Priest

Ten Sages, Holocaust

prayers asking for forgiveness

"We are Your People"

"We have sinned ..."

(alphabetical acrostic)

"... pardon our iniquities"

Acceptance (*R'tzei ... b'am'cha*)

Thanksgiving (*Modim anachnu*)

"Inscribe us for Life"

(Repetition only) Num. 6:24-26

Grant Peace (*Sim Shalom*)

"In the Book of Life"

"Today strengthen us"

NO *Kaddish Yatom*

## Basic sections of the **Shabbat** Services

<b>Arvit L'Shabbat</b>	<b>Shabbat Evening Service</b>	<b>Nusach HaT'fillah</b>
<i>Kabbalat Shabbat</i>	Preliminary Psalms	<i>HaShem Malach</i>
Mourners' <i>Kaddish</i>		
<i>Sh'ma uVirchoteha</i>	<i>Sh'ma</i> and its Blessings	<i>Magein Avot</i> Mode ("plagal" version)
<i>Chatzi Kaddish</i>		
<i>Arvit Amidah</i>	standing silent prayers	<i>Magein Avot</i> Mode ("authentic" version)
<i>M'ein Sheva</i>	prayers from the <i>Amidah</i>	
<i>Kaddish Shaleim</i>		
Conclusion	<i>Aleinu, Kaddish Yatom, Yigdal</i>	cong. melodies
<b>Shacharit L'Shabbat</b>	<b>Shabbat Morning Service</b>	<b>Nusach HaT'fillah</b>
Preliminary sections	[ expanded from Weekday ]	
<i>Birchot HaShachar</i>	Blessings of the Dawn	<i>HaShem Malach</i>
<i>P'sukei D'Zimra</i>	Verses of Song (Psalms)	(but usually in Minor)
<i>Chatzi Kaddish</i>		
<i>Shacharit</i>	(main body of the service)	[Yishtabach sub-mode]
<i>Sh'ma uVirchoteha</i>	<i>Sh'ma</i> and its Blessings	Minor, <i>Ahava Rabba</i>
<i>Shacharit Amidah</i>	standing silent / aloud prayers	Major, <i>Ahava Rabba</i>
(Hallel)	[ <i>R.Chodesh, Chol HaMoed, Han.</i> ]	Minor with melodies
<i>Kaddish Shaleim</i>		
Torah Service	with <i>Haftarah</i> & Eng. readings	Major with melodies
<i>Chatzi Kaddish</i>		
<i>Musaf Amidah</i>	[ additional Temple sacrifice ]	Major, <i>Ahava Rabba</i>
<i>Kaddish Shaleim</i>		
Conclusion	<i>Aleinu, Kaddish Yatom, Adon Olam</i>	cong. melodies
<b>Minchah L'Shabbat</b>	<b>Shabbat Afternoon Service</b>	<b>Nusach HaT'fillah</b>
Preliminary Psalm	<i>Ashrei</i> (Ps.145)+ <i>Uva L'Tziyon</i>	special <i>Mincha</i> Minor
<i>Chatzi Kaddish</i>		
Torah Service	3 Aliyot (upcoming <i>Parashah</i> )	Minor (or melodies)
<i>Chatzi Kaddish</i>		
<i>Minchah Amidah</i>	standing silent / aloud prayers	Pentatonic, Minor
<i>Kaddish Shaleim</i>		
Conclusion	<i>Aleinu, Mourners' Kaddish</i>	Study Mode Minor

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## Structure of the **Shabbat** Morning Service

### Preliminary sections

<i>Birchot HaShachar</i>	Blessings of the Dawn	<i>HaShem Malach</i>
Mourners' Kaddish		
<i>P'sukei D'Zimra</i>	Verses of Song	<i>HaShem Malach</i>
<i>Baruch She-Amar</i>	"we <b>will</b> praise You"	(but usually in Minor)
Psalms	include <i>Ashrei</i> (Ps.145)	
<i>Shochein Ad / Yishtabach</i>	"we <b>did</b> praise You"	" <i>Yishtabach</i> " Minor
<i>Chatzi Kaddish</i>		" <i>Yishtabach</i> " Minor
<i>Shacharit L'Shabbat</i>	(main body of the service)	
<b>Sh'ma uVirchoteha</b>	<i>Sh'ma</i> and its Blessings	
<i>Bar'chu / Baruch</i>	Call to Worship	" <i>Yishtabach</i> " Minor
<i>Yotzeir Or / Or Chadash</i>	<b>Creation</b>	" <i>Yishtabach</i> " Minor
<i>Ahavah Rabbah</i>	<b>Revelation</b>	<i>Ahavah Rabbah</i>
<i>Sh'ma / V'ahavta ...</i>	3 paragraphs	silent or <i>Torah Trope</i>
<i>Ga-al Yisrael</i>	<b>Redemption</b>	<i>Ahavah Rabbah</i>
<b>Shacharit Amidah</b>	standing silent / aloud prayers	
<i>Avot / Imahot</i>	Ancestors	Major, with melody
<i>G'vurot</i>	God's Powers	<i>HaShem Malach</i>
<i>K'dushat HaShem</i>	God's Holiness	<i>Ahavah Rabbah</i>
<i>K'dushat Hayom</i>	( <b>Revelation</b> theme)	<i>Ahavah Rabbah</i>
<i>Avodah</i>	Acceptance	<i>Ahavah Rabbah</i>
<i>Hoda-ah</i>	Thanksgiving	<i>Ahavah Rabbah</i>
( <i>Birkat Kohanim</i> )	(Repetition only)	<i>Ahavah Rabbah</i>
<i>Birkat Shalom</i>	Grant Peace	A.R. (or a melody)
( <i>Hallel</i> )	[ <i>R.Chodesh, Chol HaMoed, Han. .</i> ]	<i>Magein Avot</i> Minor
<i>Kaddish Shaleim</i>		Maj.\ <i>HaShem Malach</i>
<b>Torah Service</b>		
<i>Hotza-at HaTorah</i>	Remove <i>Torah</i> scroll	Major, with melodies
<i>K'ri-at HaTorah / Haftarah</i>	Chant <i>Torah / Haftarah</i>	<i>Ta'amei HaMikra</i>
<i>Hachnasat HaTorah</i>	<i>Ashrei</i> , Return <i>Torah</i>	Major, with melodies
<i>Chatzi Kaddish</i>		Major ( <u>NOT</u> Minor)
<i>Musaf Amidah</i>	[ <i>similar to Shacharit Amidah</i> ]	
<i>Kaddish Shaleim</i>		Maj.\ <i>HaShem Malach</i>
<b>Conclusion</b>		
<i>Ein Keiloheinu</i>		Major, with melodies
<i>Aleinu</i>		Major, with melodies
<i>Kaddish Yatom</i>	(Mourners' Kaddish)	
<i>Adon Olam</i>		Cong. Melody

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## Structure of **Shabbat** Evening & Afternoon Services

		<b>Nusach HaT'fillah</b>
<b>Kabbalat Shabbat</b>	Preliminary Service	
Psalms	Psalms 95 - 99, Psalm 29	<i>HaShem Malach</i>
<i>L'cha Dodi</i>	acrostic Kabbalist poem	cong. melody
Psalms	Psalms 92 - 93	<i>H.Malach</i> or Minor
<b>Arvit L'Shabbat</b>	Shabbat <b>Evening</b> Service	
<b>Sh'ma uVirchoteha</b>	<i>Sh'ma</i> and its Blessings	
<i>Bar'chu / Baruch</i>	Call to Worship	<i>Magein Avot</i> Mode
<i>HaMa-ariv Aravim</i>	<b>Creation</b>	<i>Magein Avot</i> Mode
<i>Ahavat Olam</i>	<b>Revelation</b>	<i>M.Avot</i> (or melody)
<i>Sh'ma / V'ahavta ...</i>	3 paragraphs	Torah Trope
<i>Ga-al Yisrael</i>	<b>Redemption</b>	<i>Magein Avot</i> Mode
<i>Hashkiveinu</i>	Protection	<i>Magein Avot</i> Mode
<i>V'sham'ru</i>	"Observe <i>Shabbat</i> "	cong. melody
Chatzi Kaddish		<i>M.Avot</i> (or melody)
<b>Arvit Amidah</b>	standing silent prayers ( <b>Creation</b> theme)	
<i>M'ein Sheva</i>	prayers from the <i>Amidah</i>	<i>Magein Avot</i> Mode
<i>Kaddish Shaleim</i>		Maj.\HaShem <i>Malach</i>
Conclusion	[ <b>Kiddush</b> on Fri.eve.]	cong. melody
<i>Aleinu</i>		cong. melody
<i>Kaddish Yatom</i>	(Mourners' <i>Kaddish</i> )	
<i>Yigdal</i>		cong. melody
<b>Minchah L'Shabbat</b>	Shabbat <b>Afternoon</b> Service	
Preliminary Psalm	<i>Ashrei</i> (Ps.145)+ <i>Uva L'Tziyon</i>	special <i>Mincha</i> Minor
Chatzi Kaddish		
Torah reading	3 <i>Aliyot</i> (upcoming <i>Parashah</i> )	Minor (or melodies)
Chatzi Kaddish		Study Mode Minor
<i>Minchah Amidah</i>	standing silent / aloud prayers ( <b>Redemption</b> theme)	Pentatonic, to special Shab. <i>Mincha</i> Minor
<i>Tzidkat'cha Tzedek</i>	"righteousness" verses	special <i>Mincha</i> Minor
<i>Kaddish Shaleim</i>		Study Mode Minor
Conclusion		
<i>Aleinu</i>		Study Minor / melody
<i>Kaddish Yatom</i>	(Mourners' <i>Kaddish</i> )	

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## Basic sections of the **Weekday Services** and their *Nusach HaT'fillah*

<i>Arvit L'Chol</i>	Weekday <b>Evening</b> Service	
Preliminary verse		Low Ahavah Rabbah
<i>Sh'ma uVirchoteha</i>	<i>Sh'ma</i> and its Blessings	Low Ahavah Rabbah
<i>Chatzi Kaddish</i>		Low Ahavah Rabbah
<i>Arvit Amidah</i>	standing <u>silent</u> prayers	-----
<i>Kaddish Shaleim</i>		Study Mode Minor
Conclusion	<i>Aleinu</i> , Mourners' <i>Kaddish</i>	Study Mode Minor
<i>Shacharit L'Chol</i>	Weekday <b>Morning</b> Service	
Preliminary sections		
<i>Birchot HaShachar</i>	Blessings of the Dawn	Study Mode Minor
<i>P'sukei D'Zimra</i>	Verses of Song (Psalms)	Study Mode Minor
<i>Chatzi Kaddish</i>		Low Ahavah Rabbah
<i>Shacharit</i>	(main body of the service)	
<i>Sh'ma uVirchoteha</i>	<i>Sh'ma</i> and its Blessings	Low Ahavah Rabbah
<i>Shacharit Amidah</i>	standing silent / aloud prayers	Pentatonic Mode
<i>Tachanun</i>	Penitential verses	Study Mode Minor
( <i>Hallel</i> )	[ <i>Rosh Chodesh, Chol HaMoed, Hanukkah</i> ]	
<i>Chatzi Kaddish</i>		Study Mode Minor
Torah Service	Mondays and Thursdays	Study Mode Minor
( <i>Musaf</i> )	[ <i>Rosh Chodesh, Chol HaMoed</i> ]	Pentatonic Mode
<i>Kaddish Shaleim</i>		Study Mode Minor
Conclusion	<i>Aleinu</i> , Mourners' <i>Kaddish</i>	Study Mode Minor
<i>Minchah L'Chol</i>	Weekday <b>Afternoon</b> Service	
Preliminary Psalm		Study Mode Minor
<i>Chatzi Kaddish</i>		Study Mode Minor
<i>Minchah Amidah</i>	standing silent / aloud prayers	Pentatonic Mode
<i>Tachanun</i>	Penitential verses	Study Mode Minor
<i>Kaddish Shaleim</i>		Study Mode Minor
Conclusion	<i>Aleinu</i> , Mourners' <i>Kaddish</i>	Study Mode Minor

## Appendix E – Chapter 4-b

### Structure of Jewish Musical Prayer-modes

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Problems to be solved in our liturgical texts:

1. What prayer-texts should be chanted on a given occasion?
2. Where are the sections within a particular worship service?
3. Where are the paragraph breaks within a section of prayers?
4. Where are the main clauses within each sentence of text?
5. Where are the phrases within each main clause in the text?
6. What are the word-pairs within each phrase of prayer-text?
7. How do we identify the syllables and their proper accents?
8. How do we identify the Hebrew roots, prefixes and suffixes?
9. What parts of speech can help determine the text phrases?
10. How can *Nusach HaT'fillah* motifs delineate text phrases?
11. How can modal musical motifs "paint" the text meanings?
12. How can translating the Hebrew text aid in chanting liturgy?

*Nusach HaT'fillah*, like Cantillation, can be an indicator of punctuation and accentuation, in addition to its roles in *identifying the liturgical occasion*, and *showing the structure and moods* of liturgical texts in the *Siddur* or *Machzor*.

*Nusach HaT'fillah* motifs can take punctuation *beyond* the separation of phrases, to the level of identifying *pairs* of Hebrew words that go together:

Noun and adjective	Verb and adverb
Subject and verb	Verb and object
Preposition and object	"two-word concept"
Noun and "apposition"	noun and "construct"
coordinate nouns	intensified repetition

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# Musical Modes of Nusach HaT'fillah

Ashkenazic Tradition

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1  
Mixolydian Mode, HaShem Malach in G, HaShem Malach in F

4  
Aeolian Mode, Magein Avot in A (min.), Magein Avot in F (min.)

7  
Phrygian Mode, Ahavah Rabbah in E, Ahavah Rabbah in F

10  
Dorian Mode, Selichot Mode in D, Selichot Mode in F

13  
Ionian Mode, Pentatonic Mode in C, Pentatonic Mode in F

16  
Study Mode Minor in E Study Mode Minor in G

19  
additional notes below "Tonic", LowAhavah Rabbah in E

22  
Pentatonic Mode in C, additional notes above "Tonic"

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1. Why do we chant certain prayers in certain *Nusach* Modes at certain times?
2. Why do we use certain musical motifs in *Nusach* Modes for certain prayers?
3. What are some of the sources of the Eastern European *Ashkenazic* tradition?
4. How should we integrate congregational melodies with other chanted prayers?
5. What are the functions of the *Shaliach Tzibbur* in starting and ending prayers?

The answers to these five questions are based on the chart excerpted below, with its identification of which Mode of *Nusach HaT'fillah* is chanted for each section of the services. This chart is just for the cycle of Shabbat services - a similar chart can be made for Weekday services, another for Festival services, and yet another for the High Holy Days services.

### Sections and *Nusach* Modes of **Shabbat** Services

<b>Arvit L'Shabbat</b>	<b>Shabbat Evening Service</b>	<b><i>Nusach HaT'fillah</i></b>
<i>Kabbalat Shabbat</i>	Preliminary Psalms	<i>HaShem Malach</i>
<i>Sh'ma uVirchoteha</i>	<i>Sh'ma</i> and its Blessings	<i>Magein Avot</i> Mode
<i>Arvit Amidah</i>	standing silent prayers	
<i>M'ein Sheva</i>	prayers from the <i>Amidah</i>	<i>Magein Avot</i> Mode
Conclusion	<i>Aleinu, Kaddish Yatom, Yigdal</i>	cong. melodies
<b>Shacharit L'Shabbat</b>	<b>Shabbat Morning Service</b>	
Preliminary sections		
<i>Birchot HaShachar</i>	Blessings of the Dawn	<i>HaShem Malach</i>
<i>P'sukei D'Zimra</i>	Verses of Song (Psalms)	(but usually in Minor)
<i>Shacharit</i>		
<i>Sh'ma uVirchoteha</i>	<i>Sh'ma</i> and its Blessings	Minor, <i>Ahava Rabba</i>
<i>Shacharit Amidah</i>	standing silent / aloud prayers	Major, <i>Ahava Rabba</i>
<i>Torah</i> Service	with <i>Haftarah</i> & Eng. readings	Major with melodies
<i>Musaf Amidah</i>	standing silent / aloud prayers	Major, <i>Ahava Rabba</i>
Conclusion	<i>Aleinu, Kaddish Yatom, Adon Olam</i>	cong. melodies
<b>Minchah L'Shabbat</b>	<b>Shabbat Afternoon Service</b>	
Preliminary Psalm	<i>Ashrei</i> (Ps.145)+ <i>Uva L'Tziyon</i>	special <i>Mincha</i> Minor
<i>Torah</i> Service	3 <i>Aliyot</i> (upcoming <i>Parashah</i> )	Minor (or melodies)
<i>Minchah Amidah</i>	standing silent / aloud prayers	Pentatonic, Minor
Conclusion	<i>Aleinu, Mourners' Kaddish</i>	Study Mode Minor

None of the above is arbitrary - there is an *internal logic and consistency* in the way that the oral tradition assigned each *Nusach* Mode to each of the liturgy sections listed above. These Modes reflect the structure and mood of each section in our services throughout the *Shabbat*.

### 1. Why do we chant certain prayers in certain *Nusach* Modes at certain times?

Each *Nusach* Mode and sub-mode carries with it an "affective" aspect of mood, as well as a "cognitive" aspect of identifying the liturgical occasion and the specific section of our liturgy.

The *HaShem Malach* Mode (similar to a "Major" key) has a happy, even jubilant sound.

The *Magein Avot* Mode (similar to a "Natural Minor" key) sets a quiet mood on *Shabbat*, and its sub-mode of Weekday Study Minor has a perfunctory, business-like sound.

The *Ahavah Rabbah* Mode as it is chanted on *Shabbat* brings a sense of Middle-Eastern mystique to our ancient liturgy, but on Weekdays this Mode is low-key and simple.

### 2. Why do we use certain musical motifs in *Nusach* Modes for certain prayers?

Within each *Nusach* Mode, and also among the several sub-modes, the available sets of musical motifs are used to delineate the *punctuation* of the phrases, the *accents* of the words, the *mood* of a particular prayer-section, and the *meaning* of the liturgical texts.

For any particular prayer, the traditional *Nusach* Mode used to chant it reflects the time of year, month, week, and day, and it identifies the surrounding section of the service. Thus, the traditional *Nusach* for ending the *Hashkiveinu* prayer in the evening service is very different on Weekday evening, Friday night, Festival eve, and the High Holy Days.

The *Nusach* Mode does not vary with the *subject matter* of a given prayer, but rather with the **section** of the service and the **occasion** when this prayer and service are taking place. Within the assigned *Nusach* Mode (from the oral tradition) for that section and occasion, the musical motifs can be varied to reflect the contents and mood of a particular prayer.

### 3. What are some of the sources of the Eastern European *Ashkenazic* tradition?

Scholars trace many traditional musical motifs in various *Nusach* Modes to Cantillation motifs found in the Trope of various Biblical books. Other scholars feel that some motifs of liturgical music may be derived from musical phrases in Yiddish folk songs and the folk music of the surrounding cultures in areas where Jews lived, including several Arabic "*Maqam*" modes.

Some patterns seem to occur in every type of *Nusach HaT'fillah*, the musical prayer-modes. There is usually some kind of standard Opening motif, often followed by a Re-Opening or Continuing motif. Then comes an Extension or an Elaboration, and in a longer sentence of the liturgy there may be Upward and Downward Extensions and Elaborations.

In some Modes and sub-modes of *Nusach HaT'fillah*, a Modulation may be briefly made to a new key (usually upwards), and there is a corresponding motif to Modulate back down. The ends of phrases and clauses are indicated with Shorter or Longer Pausal motifs, and most sentences have a mid-point that is marked by a Strong Pausal (like an *Etnachta* in Trope). There is usually a standard chant pattern for the final *Brachah* of a prayer, and often another standard musical motif for the very end of a liturgical paragraph (like a *Sof Pasuk* in Trope).

#### 4. How should we integrate congregational melodies with other chanted prayers?

One long-standing difference between the music of worship services in the Conservative and Reform Movements has been the proportion of "davenning" and congregational melodies. As the Reform Movement has become more traditional in other ways during recent decades, and as pressure has increased in Conservative congregations for more group participation in the music of worship services, this difference of proportion in music styles is somewhat lessening.

There is a large degree of agreement among the institutions that train professional *Hazzanim* as to the musical traditions of Eastern European Ashkenazic worship. In most of the Cantorial Schools, the same *Nusach* Modes are taught with similar musical motifs for the same liturgical occasions and sections of the liturgy. An example would perhaps be the ends of Psalms 95 - 99 in Kabbalat Shabbat; if one of these Psalms is chanted on Friday evening (rather than sung as a congregational melody), it will likely be in the *HaShem Malach* Mode with similar musical motifs.

When choices are made about which congregational melodies to use in a given section of the liturgy on a particular occasion (*Shabbat* or Festival or High Holy Days), it is preferable that a consideration be given to the underlying *Nusach* Mode of the melody chosen. There are many congregational melodies for *V'sham'ru*, most of which are suitable for a Friday evening service; only a very few are in the *Ahavah Rabbah* Mode, and thus also suitable for *V'sham'ru* when it is chanted in the Repetition of the *Shabbat Shacharit Amidah*.

Does this really matter? If the agreed-upon goals of chanting Jewish liturgy are to mark sacred time and to differentiate that sacred time through the use of *Nusach HaT'fillah*, then this does in fact matter. There is a huge difference in the ambience of perfunctory Weekday services and leisurely *Shabbat* services, so identical prayer-texts should be chanted very differently. Thus in general, there are more congregational melodies on *Shabbat* than during Weekday services.

#### 5. What are the functions of the *Shaliach Tzibbur* in starting and ending prayers?

Perhaps a useful description of traditional Jewish liturgy is to compare the music of a service with a baked layer-cake. Each section of a complete service is like another layer in the cake, and within each section there can be congregational melodies and perhaps English readings that correspond to pieces of fruit or candy within a particular layer of the cake. The *Nusach* Mode that binds the prayers of a given liturgical section is like one layer of this cake being in chocolate, while the different *Nusach* of the next section is like the next layer being in vanilla.

The *Shaliach Tzibbur* (prayer leader) starts and ends each paragraph within a given section of liturgy, partly to keep the congregation together, and partly to set the mood for each particular prayer in that section. One reason that there are many different melodies for the *Kaddish* is its dual function in the structure of traditional liturgy: a *Kaddish* simultaneously ends one section and introduces the musical motifs of the next section.

Hazzan Max Wohlberg used to urge students at the JTS Cantorial School to "Use the *Nusach* motifs to *paint the meanings* of the sacred words." Most ancient religious cultures seem to use sacred music this way - to *interpret texts and liturgy through music* so as to help *bring a spark of the Holy into the world and into our lives*.

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# Musical Motifs of Study Mode Minor

Ashkenazic Tradition

arr. Cantor Neil Schwartz

The image displays musical notation for twelve measures of the Study Mode Minor, arranged in six groups of two measures each. Each measure is labeled with a specific musical motif or function. The notation is in treble clef with a key signature of one flat (Bb) and a 4/4 time signature. The motifs are as follows:

- Measure 1:** Primary —
- Measure 2:** Opening —
- Measure 3:** Reopening —
- Measure 4:** or
- Measure 5:** Continuing
- Measure 6:** Short
- Measure 7:** Extension
- Measure 8:** Extension —
- Measure 9:** Upwards
- Measure 10:** Elaboration
- Measure 11:** Higher
- Measure 12:** Blessing
- Measure 13:** near the end —
- Measure 14:** Shorter —
- Measure 15:** Medium
- Measure 16:** Pausal
- Measure 17:** Longer —
- Measure 18:** Medium
- Measure 19:** Pausal
- Measure 20:** Medium —
- Measure 21:** Pausal
- Measure 22:** (comma)
- Measure 23:** Strong —
- Measure 24:** Pausal
- Measure 25:** (semicolon)
- Measure 26:** Primary
- Measure 27:** Closing
- Measure 28:** (period)
- Measure 29:** Alternate
- Measure 30:** Closing
- Measure 31:** (period) —

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## Musical Motifs of Low Ahavah Rabbah

Ashkenazic Tradition

arr. Cantor Neil Schwartz

Primary Opening      Reopening or Continuing      Short Extension

4  
Extension Upwards      Extension Downwards      Elaboration Higher

7  
Elaboration Lower      Blessing near the end      Shorter Medium Pausal

10  
Longer Medium Pausal      Strong Pausal (semicolon)      Primary Closing (period)



## Musical Motifs of Pentatonic Mode

Ashkenazic Tradition

arr. Cantor Neil Schwartz

Primary Opening      Reopening or Continuing      Short Extension

4  
Extension Upwards      Blessing near the end      Shorter Medium Pausal

7  
Strong Pausal (semicolon)      Primary Closing (period)

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## Musical Motifs of HaShem Malach Mode

## Ashkenazic Tradition

arr. Cantor Neil Schwartz

Primary Opening Reopening or Continuing

3 Short Extension Extension Upwards Extension Downwards

6 Elaboration Higher Modulate Upwards Modulate Downwards

9 Shorter Medium Pausal Longer Medium Pausal Medium Pausal (comma)

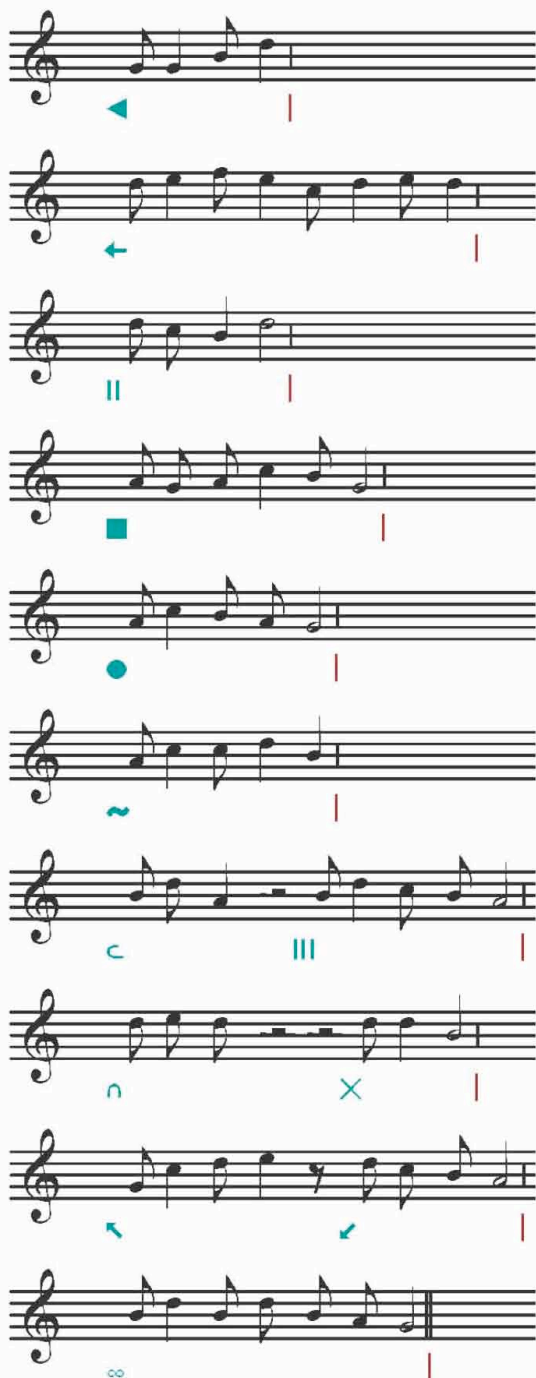
12 Strong Pausal (semicolon) Primary Closing (period)

18

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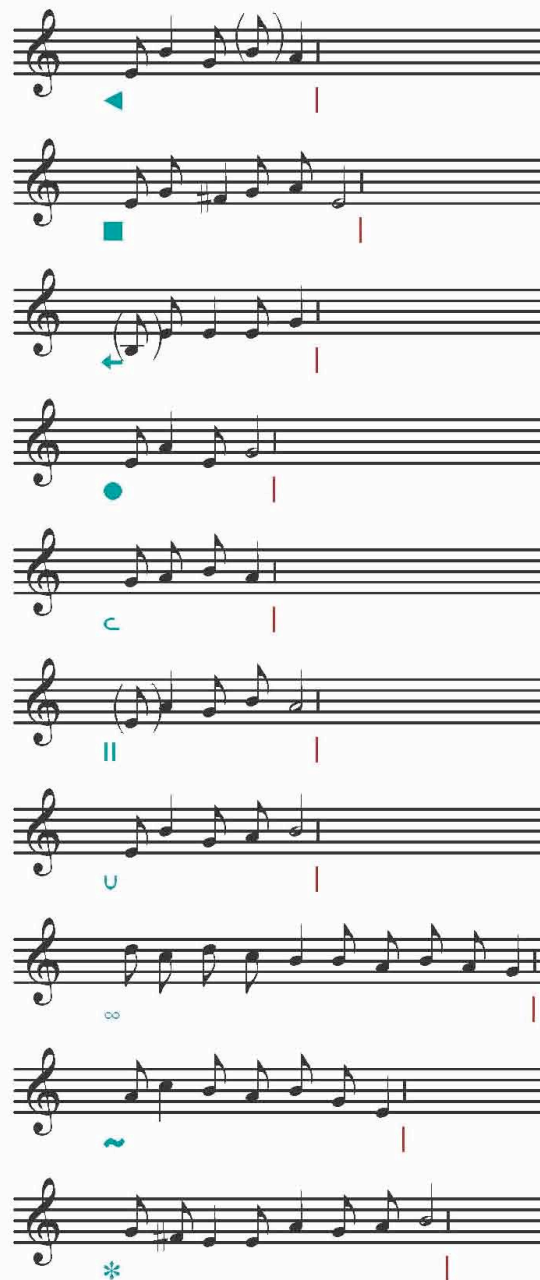
## HaShem Malach mode

(chanted on *Shabbat* evening)



## Yishtabach sub-mode

(chanted on *Shabbat* morning)



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## Motifs of Shabbat Arvit Magein Avot Mode

Primary Opening \_\_\_\_\_ Continuing \_\_\_\_\_ Short Extension

4  
Extension Upwards Blessing \_\_\_\_\_ Near \_\_\_\_\_ End \_\_\_\_\_ Elaboration Higher

7  
Elaboration Lower Shorter Medium Pausal Longer \_\_\_\_\_ Medium Pausal

10  
Medium Pausal Strong Pausal (semicolon) Primary Closing (period)

## Friday evening *Magein Avot* mode – *Sh'ma* and its Blessings section

III

II

~ c

u n

x \*

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# Motifs of Mei'ein Sheva Magein Avot Mode

Ashkenazic Tradition

arr. Cantor Neil Schwartz

1 Primary Opening Secondary Opening

3 Short Extension Extension Upwards

5 Extension Downwards Blessing Near End

7 Elaboration Higher Elaboration Lower

9 Modulate Upwards Modulate Downwards

11 Shorter Medium Pausal Longer Medium Pausal

13 Medium Pausal (comma) Strong Pausal (semicolon)

15 Primary Closing (period)

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# Musical Motifs of Yishtabach Mode (Magen Avot)

Ashkenazic Tradition

arr. Cantor Neil Schwartz

Primary \_\_\_\_ Opening Reopening or \_\_\_\_ Continuing

3 Short \_\_\_\_ Extension Extension \_\_\_\_ Upwards \_\_\_\_

5 Extension \_\_\_\_ Downwards \_\_\_\_ Elaboration \_\_\_\_ Lower \_\_\_\_

7 Elaboration \_\_\_\_ Lower \_\_\_\_ Blessing \_\_\_\_ near the end \_\_\_\_

9 Shorter Medium Pausal Medium Pausal \_\_\_\_ (comma)

11 Strong \_\_\_\_ Pausal (semicolon) Primary Closing (period)

13

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יִתְגַּדֵּל וְיִתְקַדַּשׁ שְׁמֵהּ רַבָּא. אֲמֵן. Cong

בְּעֶלְמָא דִּי בְּרָא כְרַעוּתָהּ,

וְיִמְלִיךְ מַלְכוּתָהּ, בְּחַיֵּיכוֹן וּבְיוֹמֵיכוֹן,

וּבְחַיֵּי דְכָל־בֵּית יִשְׂרָאֵל,

בְּעֶגְלָא וּבְזִמְן קָרִיב.

וְאָמְרוּ: אֲמֵן. אֲמֵן. Cong

יְהֵא שְׁמֵהּ רַבָּא מְבָרַךְ

לְעָלָם וּלְעָלְמֵי עָלְמֵיָא.

יִתְבָּרַךְ וְיִשְׁתַּבַּח וְיִתְפָּאֵר וְיִתְרוֹמֵם וְיִתְנַשֵּׂא

וְיִתְהַדָּר וְיִתְעַלֶּה וְיִתְהַלָּל,

שְׁמֵהּ דְקֻדְשָׁא בְּרִיךְ הוּא, בְּרִיךְ הוּא, Cong

לְעָלָא מִן כָּל־בְּרַכְתָּא וְשִׁירְתָּא,

תְּשַׁבַּחְתָּא וְנַחֲמַתָּא, דְּאֲמִירָן בְּעֶלְמָא.

וְאָמְרוּ: אֲמֵן. אֲמֵן. Cong



## "High" Ahavah Rabbah mode

(chanted on *Shabbat* morning)



## "Low" Ahavah Rabbah mode

(Weekday morning & evening)



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# Musical Motifs of Ahavah Rabbah Mode (Shabbat)

Ashkenazic Tradition

arr. Cantor Neil Schwartz

The image displays musical notation for the Ahavah Rabbah Mode in the Ashkenazic Tradition, arranged by Cantor Neil Schwartz. The notation is presented in a single staff with a key signature of one sharp (F#) and a time signature of 3/4. The motifs are numbered 1 through 14, corresponding to measures 1 through 14. Each motif is labeled with its function and duration.

1 Primary \_\_\_\_ Opening Reopening \_\_\_\_ or Continuing

3 Short \_\_\_\_ Extension Extension Upwards Extension \_\_\_\_ Downwards \_\_\_\_

6 Elaboration \_\_\_\_ Higher \_\_\_\_ Elaboration \_\_\_\_ Lower \_\_\_\_

8 Modulate \_\_\_\_ Upwards \_\_\_\_ Modulate Downwards \_\_\_\_

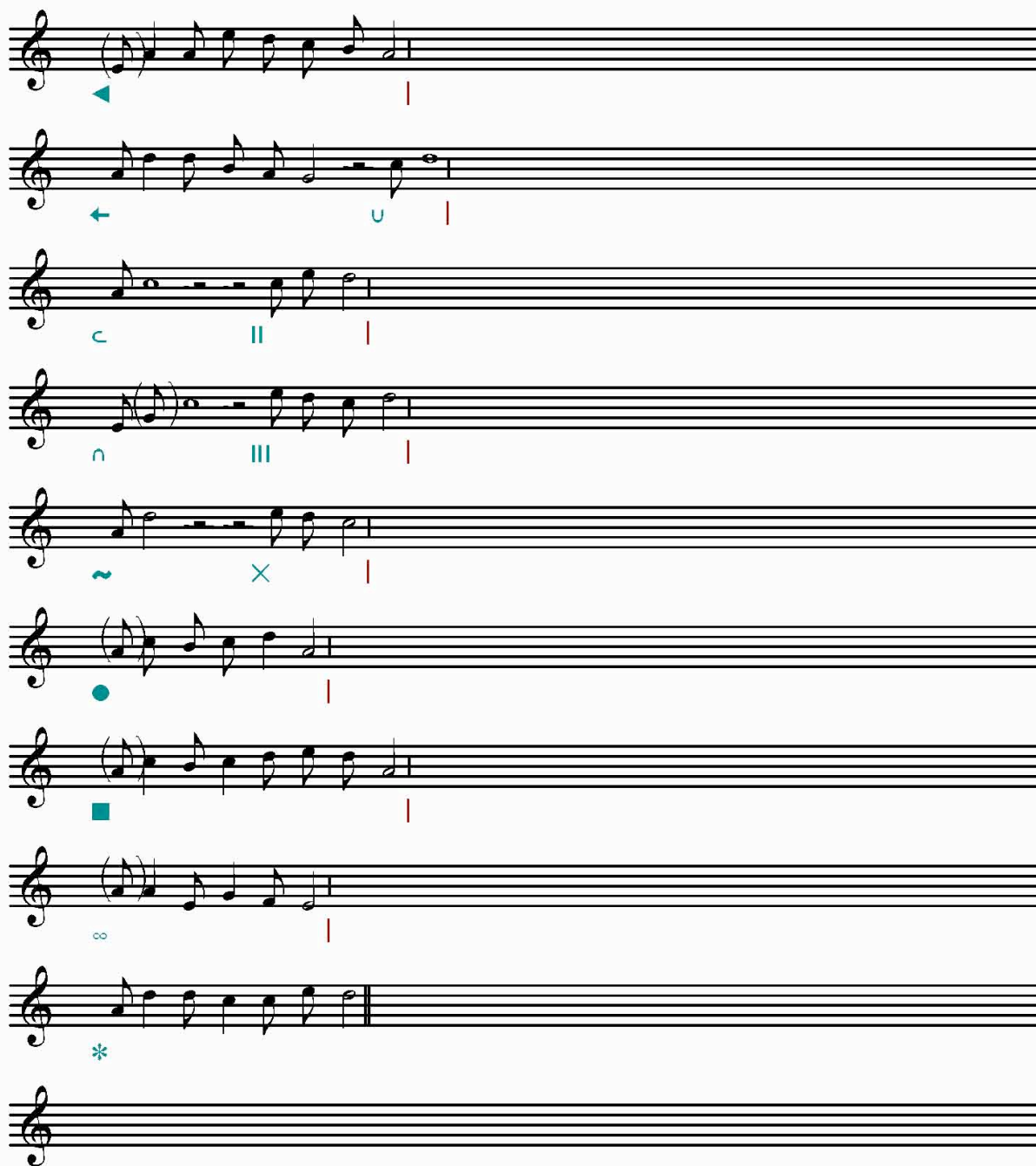
10 Blessing \_\_\_\_ near \_\_\_\_ the \_\_\_\_ end Shorter Medium Pausal

12 Longer Medium Pausal \_\_\_\_ Medium Pausal \_\_\_\_ (comma) \_\_\_\_

14 Strong \_\_\_\_ Pausal \_\_\_\_ (semicolon) Closing Motif \_\_\_\_ (period) \_\_\_\_

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# Shabbat Minchah Mode-(Shabbat Minchah Minor)



## Slichah Mode or Ukrainian Dorian Variant

The image displays ten staves of musical notation for the Slichah Mode or Ukrainian Dorian Variant. Each staff contains a sequence of notes and rests, with various annotations below them:

- Staff 1: A teal triangle pointing left, a teal circle, and a red vertical line.
- Staff 2: A teal tilde (~), a teal 'c' with a horizontal line, and a red vertical line.
- Staff 3: A teal square, and a red vertical line.
- Staff 4: A teal 'n', a teal infinity symbol ( $\infty$ ), and a red vertical line.
- Staff 5: A teal 'u', a teal square, and a red vertical line.
- Staff 6: A teal triangle pointing left, a teal double bar line (||), and a red vertical line.
- Staff 7: A teal arrow pointing left, a teal triple bar line (|||), and a red vertical line.
- Staff 8: A teal arrow pointing left, a teal 'x', and a red vertical line.
- Staff 9: A teal 'x', and a red vertical line.
- Staff 10: A teal asterisk (\*), and a red vertical line.

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## Appendix F – Chapter 5

### *Simanei Nusach* Development for Liturgical Chant

Appendix F- 1	– <i>Simanei Nusach</i> revised chart 2012	pg. 209
Appendix F- 2	– Trope & <i>Nusach</i> Symbols 1976 & 2007	pp. 210
Appendix F- 3	– <i>Hatzi Kaddish</i> compare 1976 & 2007	pg. 212
Appendix F- 4	– <i>Ahavah Rabbah</i> music 1976 & 2007	pg. 213
Appendix F- 5	– <i>Simanei Nusach</i> with Linkages 2012	pg. 214
Appendix F- 6	<i>Yismach Moshe</i> compare 1976 & 2007	pg.215
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Appendix F-12	– <i>Simanei Nusach</i> with Trope - 2012	pg. 224

## “Simanei Nusach” – Graphic Symbols for Nusach HaT’fillah

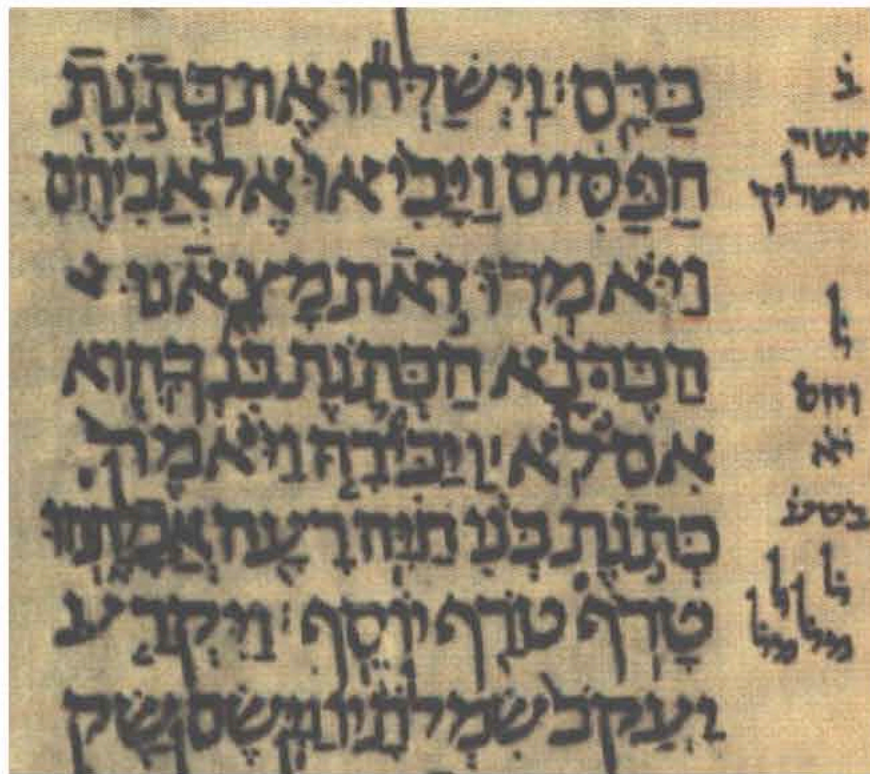
Here are the new “*Simanei Nusach*” (“Symbols of *Nusach*”) **graphic symbols**, with the **general** and *punctuation* functions of their musical motifs in each Nusach mode:

Shapes	Symbol Names	General Functions	Punctuation
◀	<b>Dark Triangle</b>	Primary Opening	<i>Conjunctive</i>
◁	<b>Open Triangle</b>	Secondary Opening	<i>Conjunctive</i>
↑	<b>Left Arrow</b>	Continuation or Re-opening	----- <i>Conj. \ Disj.</i>
↵	<b>Hook</b>	Continuation Upward	<i>Conj. \ Disj.</i>
~	<b>Tilde</b>	Extension Upward	----- <i>Conj. \ Disj.</i>
∞	<b>Infinity</b>	Extension Downward	<i>Conj. \ Disj.</i>
U	<b>Upward “U”</b>	Elaboration Upward	----- <i>Conj. \ Disj.</i>
∩	<b>Downward “U”</b>	Elaboration Downward	<i>Conj. \ Disj.</i>
↗	<b>Up Arrow</b>	Modulation Upward	----- <i>Conjunctive</i>
↘	<b>Down Arrow</b>	Modulation Downward	<i>Disjunctive</i>
	<b>Double Lines</b>	Shorter Medium Pausal	----- <i>Disjunctive</i>
	<b>Triple Lines</b>	Longer Medium Pausal	<i>Disjunctive</i>
●	<b>Dark Circle</b>	Primary Strong Pausal	----- <i>Disjunctive</i>
○	<b>Open Circle</b>	Secondary Strong Pausal	<i>Disjunctive</i>
×	<b>Letter “X”</b>	Medium Pausal or Penultimate	----- <i>Disjunctive</i>
*	<b>Asterisk</b>	End Blessing or Penultimate	<i>Disjunctive</i>
■	<b>Dark Square</b>	Primary Closing	----- <i>Disjunctive</i>
□	<b>Open Square</b>	Secondary Closing	<i>Disjunctive</i>

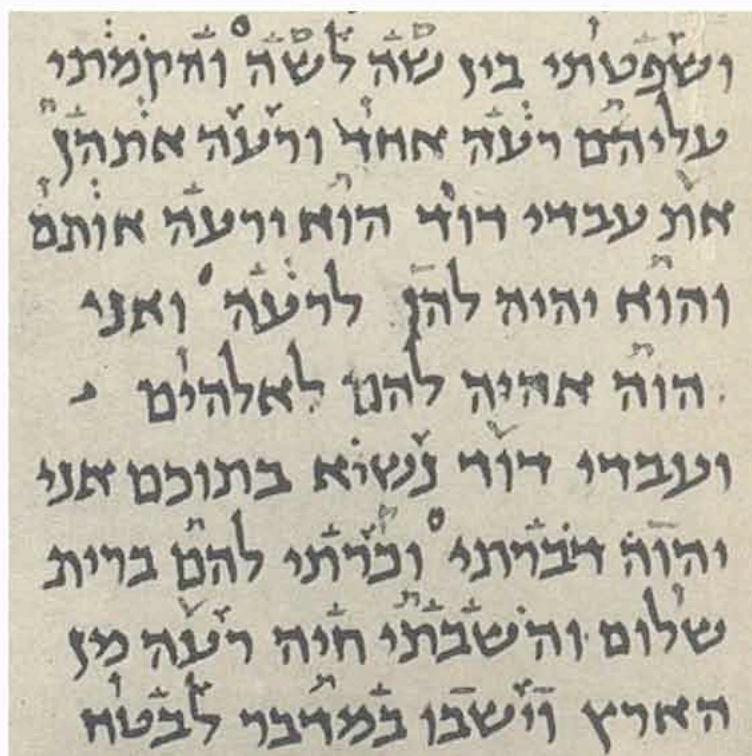
Continuations, Extensions and Elaborations can function as Conjunctives or Disjunctives

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Tiberian Masoretic Vowels and Trope, mostly below words



Babylonian Vowels and Trope, above words



# טַעַמֵי הַתְּפִלָּה

## NOTATION FOR NUSACH-TROPE

תולדות	אבות
ו = ה = הוּא	א = א = אֲדִיר
ו = ש = שְׁמוֹ	ב = ב = בְּרוּךְ
כ = כ = כְּבוֹדוֹ	ג = ג = גְּדוּל
א = א = אֲתָה	ד = ד = דְּגוּל
	ה = ה = הַדּוֹר
	ז = ז = זְכוּר
	ח = ח = חֲמִישִׁי

## Original Schema for "*Simanei Nusach*" 2007 Cantor Neil Schwartz and Tom Buchler

### Conjunctives / Joiners

(from strongest to weaker)

▲	Triangle	Primary Opening motif
↑	Left Arrow	Re-opening or Continuing
⤿	Hook	Short Extension
⤿	Tilde	Extension upward
∞	Infinity	Extension downward
*	Asterisk	Blessing near a paragraph end
U	Upward "U"	Elaboration Higher
U	Downward "U"	Elaboration Lower
↗	Up Arrow	Modulate upwards briefly
△	Open Triangle	Opening in a different <i>Nusach</i>

### Disjunctives / Separators

(from strongest to weaker)

■	Square	Closing motif – <i>Sof Pasuk</i>
●	Circle	Strong Pausal – <i>Etnachta</i>
×	Letter "X"	Medium Pausal or Penultimate
	Double Line	Shorter Medium Pausal
	Triple Lines	Longer Medium Pausal
↘	Down Arrow	Return from Modulation
□	Open Square	Closing in a different <i>Nusach</i>
○	Open Circle	Pausal in a different <i>Nusach</i>



Kaddish with "Nusah-Trope" (1976)

Reader  
 יתגדל ויתקדש שְׁמֵהּ רַבָּא, בְּעֻלְמָא דִּי-בְרָא  
 כְּרַעוּתָהּ, וַיִּמְלִיךָ מַלְכוּתָהּ, בְּחַיֵּינוּ וּבְיוֹמֵינוּ, וּבְחַיֵּי  
 דְּכָל-בֵּית יִשְׂרָאֵל, וּבְעֻלְמָא וּבְזִמְנֵי קָרִיב. וְאָמְרוּ אָמֵן.  
 Cong.  
 יהא שְׁמֵהּ רַבָּא מְבָרַךְ לְעֻלְמָא וְלְעֻלְמֵי עַלְמֵיָּא.  
 Cong. and Reader  
 עַלְמֵיָּא.

Kaddish with "Simanei Nusach" (2007)

Kaddish Shaleim (Full Kaddish)

קְדִישׁ שְׁלֵם

Exalted and sanctified be God's great  
 Name

יתגדל ויתקדש שְׁמֵהּ רַבָּא. The reader recites:

(Amen)

אָמֵן. -Cong

in the world that God has created  
 according to His will.

בְּעֻלְמָא דִּי בְרָא כְּרַעוּתָהּ.

And may God's sovereignty have  
 dominion, in your lifetime and in your  
 days,  
 and in the lifetime of the entire House  
 of Israel,

וַיִּמְלִיךָ מַלְכוּתָהּ, בְּחַיֵּינוּ וּבְיוֹמֵינוּ,

וּבְחַיֵּי דְּכָל-בֵּית יִשְׂרָאֵל,

speedily and at a near time;

בְּעֻלְמָא וּבְזִמְנֵי קָרִיב.

and say, Amen. (Amen)

וְאָמְרוּ: אָמֵן. אָמֵן. -Cong

May God's great Name be praised

יהא שְׁמֵהּ רַבָּא מְבָרַךְ -Cong

forever and for all eternity.

לְעֻלְמָא וְלְעֻלְמֵי עַלְמֵיָּא.

## Nusah-Trope, 1976

NUSAḤ-TROPE - AHAVA RABBA

A-dir. A-dir hu. A-dir sh'mo. A-dir k'vo-do. A-dir a-ta.

Ba-rukh. Ba-rukh hu. Ba-rukh sh'mo. Ba-rukh a-ta.

Ga-dol. Ga-dol hu. Ga-dol sh'mo. Ga-dol k'vo-do. Ga-dol a-ta.

Da-gul. Da-gul hu. Da-gul sh'mo. Da-gul a-ta.

Ta-mim. Ta-mim hu. Ta-mim sh'mo. Ta-mim a-ta.

Ka-bir Ka-bir hu. Ka-bir a-ta.

## Simanei Nusach, 2007

1 Primary Opening Reopening or Continuing

3 Short Extension Extension Upwards Extension Downwards

6 Elaboration Higher Elaboration Lower

8 Modulate Upwards Modulate Downwards

10 Blessing near the end Shorter Medium Pausal

12 Longer Medium Pausal Medium Pausal (comma)

14 Strong Pausal (semicolon) Closing Motif (period)

“Simanei Nusach” – Graphic Symbols for *Nusach HaT’fillah* (Prayer-Modes)

Here are the new “*Simanei Nusach*” (“Symbols of *Nusach*”) **graphic symbols**, with the **general function** and **punctuation function** of their musical motifs in each Nusach mode.

Types: (**basic**) = in **simpler** modes / (*extra*) = when *needed* / linkage = in elaborate modes

Shape	Symbol Name	General Function	Type	Punctuation
◀	Dark Triangle	Primary <b>Opening</b>	( <b>basic</b> )	<i>Conjunctive</i>
◁	Open Triangle	<i>Secondary Opening</i>	( <i>extra</i> )	<i>Conjunctive</i>
←	Left Arrow	<b>Continuation</b> or Re-opening	( <b>basic</b> )	<i>Conj. \ Disj.</i>
⤿	Hook	<b>Continuation</b> Upward	linkage	<i>Conj. \ Disj.</i>
~	Tilde	<b>Extension</b> Upward	( <b>basic</b> )	<i>Conj. \ Disj.</i>
∞	Infinity	<b>Extension</b> Downward	linkage	<i>Conj. \ Disj.</i>
U	Upward “U”	<b>Elaboration</b> Upward	linkage	<i>Conj. \ Disj.</i>
∩	Downward “U”	<b>Elaboration</b> Downward	linkage	<i>Conj. \ Disj.</i>
↗	Up Arrow	<b>Modulation</b> Upward	linkage	<i>Conjunctive</i>
↘	Down Arrow	<b>Modulation</b> Downward	linkage	<i>Disjunctive</i>
	Double Lines	Shorter <b>Medium Pausal</b>	( <b>basic</b> )	<i>Disjunctive</i>
	Triple Lines	Longer <b>Medium Pausal</b>	( <i>extra</i> )	<i>Disjunctive</i>
●	Dark Circle	Primary <b>Strong Pausal</b>	( <b>basic</b> )	<i>Disjunctive</i>
○	Open Circle	<i>Secondary Strong Pausal</i>	( <i>extra</i> )	<i>Disjunctive</i>
×	Letter “X”	<b>Penultimate</b> or Med. Pausal	( <i>extra</i> )	<i>Disjunctive</i>
*	Asterisk	<b>End Blessing</b> or Penultimate	( <b>basic</b> )	<i>Disjunctive</i>
■	Dark Square	Primary <b>Closing</b>	( <b>basic</b> )	<i>Disjunctive</i>
□	Open Square	<i>Secondary Closing</i>	( <i>extra</i> )	<i>Disjunctive</i>

Continuations, Extensions and Elaborations can function as *Conjunctives* or as *Disjunctives*

### שחרית לשבת

יִשְׁמַח מֹשֶׁה בְּמִתְנַת חֶלְקוֹ. כִּי עֲבַד נְאֻמֵּי קִרְיָאָה לֹו.  
כָּלִיל תַּפְאֲרַת בְּרָאשׁוֹ נִתְּתָה. בְּעַמְדוֹ לְפָנֶיהָ עַל הָהָר-  
סִינִי. וְשָׁנִי לִוְחֹת אֲבָנִים הוֹרִיד בְּיָדוֹ. וְכָתוּב בָּהֶם  
שְׁמִירַת שַׁבָּת. וְכֵן כָּתוּב בְּתוֹרָתָהּ.  
וְשִׁמְדוֹ בְּנֵי-יִשְׂרָאֵל אֶת-הַשַּׁבָּת לַעֲשׂוֹת אֶת-הַשַּׁבָּת  
לְדֹרֹתָם בְּרִית עוֹלָם: בֵּינִי וּבֵין בְּנֵי יִשְׂרָאֵל אֲוֹת הִיא  
לְעוֹלָם כִּי-שֶׁשֶׁת יָמִים עָשָׂה יְהוָה אֶת-הַשָּׁמַיִם וְאֶת-הָאָרֶץ  
וּבַיּוֹם הַשְּׁבִיעִי שָׁבַת וַיִּנָּפֶשׁ.

יִשְׁמַח מֹשֶׁה בְּמִתְנַת חֶלְקוֹ.  
כִּי עֲבַד נְאֻמֵּי קִרְיָאָה לֹו.  
כָּלִיל תַּפְאֲרַת בְּרָאשׁוֹ נִתְּתָה.  
בְּעַמְדוֹ לְפָנֶיהָ עַל הָהָר סִינִי.  
וְשָׁנִי לִוְחֹת אֲבָנִים הוֹרִיד בְּיָדוֹ.  
וְכָתוּב בָּהֶם שְׁמִירַת שַׁבָּת.  
וְכֵן כָּתוּב בְּתוֹרָתָהּ.

Yismach Moshe with "Simanei Nusach" (2007)

יִשְׁמַח מֹשֶׁה בְּמַתַּנַּת חֶלְקוֹ,  
 כִּי עֶבֶד נְאֻמָּן קִרְאָתָּ לּוֹ.  
 כְּלִיל תְּפִאֲרֶת בְּרֹאשׁוֹ נָתַתָּ,  
 בְּעֲמֻדוֹ לְפָנֶיךָ עַל הַר סִינִי,  
 וְשָׁנִי לַוַּחֹת אַבְנִים הוֹרִיד בְּיָדוֹ,  
 וְכָתוּב בָּהֶם שְׁמִירַת שַׁבָּת.  
 וְכֵן כָּתוּב בְּתוֹרָתְךָ:

Yismach Moshe with "Simanei Nusach" and Music

Yis - mach mo - she b' - ma - t' - nat \_ chel - ko, \_ ki e -  
 ved ne - e - man ka - ra - \_ ta lo. K' - lil tif - e - ret b' -  
 ro - sho \_ na - ta - ta, b' - om - do l' - fa - ne - cha al har si -  
 nai, u - sh - nei lu - chot a - va - nim ho - rid b' - ya - \_ do, v' -  
 cha - tuv ba - hem sh' - mi - rat sha - bat. V' - chein ka - tuv  
 b' - to - ra - te - cha: V' - sha - m' - ru v' - nei - yis - ra - eil et - ha - sha -



## Screenshot of *Yismach Moshe* in *Tefillah Trainer*™ software

**Kinnor Software** – Tom Buchler, developer  
Cantor Neil Schwartz, Sacred Music Consultant

# TEFILLAH TRAINER™ SOFTWARE

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מִזְמוֹר עֵשִׂיר לַיּוֹם הַשַּׁבָּת. |  
טוֹב לַהֲדוֹת לַיהוָה, וּלְזַמֵּר לְשִׁמְךָ עֲלֵינוּ. |  
לְהַגִּיד בַּבֶּקֶר חֲסִדְךָ, וְאַמּוֹנָתְךָ בַּלַּיְלוֹת. |

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צָדִיק כַּתְּמָר יִפְרַח, |  
כְּאֶרֶץ בְּלִבְנוֹן יִשְׁגֶּה. |  
שְׁתוּלִים בְּבֵית יְהוָה, |  
בְּחֲצֵרוֹת אֶלְהִינוּ יִפְרִיחוּ. |  
עוֹד יִנוּבוֹן בְּשִׁיבָה, |  
דְּשָׁנִים וְרַעְנָנִים יִהְיוּ. |  
לְהַגִּיד כִּי־יֵשֶׁר יְהוָה, |  
צוּרֵי וְלֹא־עוֹלָתָהּ בּוֹ. |

Friday evening *Hashkiveinu* – plagal *Magein Avot* mode

from *Tefillah Trainer™*, produced by Kinnor Software, with *Simanei Nusach*

me - lech cha - nun v' - ra - chum a - tah. Ush - mor tzei - tei - nu  
u - vo - ei - nu l' - cha - yim ul - sha - lom, mei - a - tah  
v' - ad o - lam. Uf - ros a - lei - nu su - kat sh' - lo - me -  
cha. Ba - ruch a - tah a - do - nai, ha - po - reis su - kat  
sha - lom a - lei - nu v' - al kol - a - mo yis - ra - eil v' - al  
y' - ru - sha - la - yim. A - mein.

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Cantor Neil Schwartz and Kinnor Software developer Tom Buchler seek copyright protection and/or patent protection for “**Simanei Nusach**” or “**Nusach Symbols**” as described herein.

Definitions of Hebrew terms:

dated: **June 11, 2007**

<b>Nusach</b>	“musical prayer modes” used during the chanting of Jewish liturgy, which indicate liturgical occasions and sections of the services.
<b>Simanim</b>	“symbols” in general, herein referring to a system of graphic symbols which indicate specific melodic motifs within each Nusach mode.
<b>Ta’amim</b>	“accents” in general, specifically a set of 28 symbols which are used to delineate the chanting of texts from the Hebrew Bible (O.T.).
<b>Simanei Nusach</b>	“Nusach Symbols” (literally “Symbols of Nusach”) used to indicate melodic motifs, phrasing, and word stress in liturgical chanting.
<b>Ta’amei HaMikra</b>	“Accents of Reading” or “Trope” in the printed text of Hebrew Bibles, which indicate punctuation, accentuation, and chanting of words.

“Simanei Nusach” or “Nusach Symbols” are a new *system of graphic symbols* which are used to indicate specific liturgical melody motifs used for the chanting of Jewish liturgy. These graphic symbols also delineate the punctuation of phrases within the liturgical texts, and the musical shaping of specific melodic motifs indicates stress on important words within liturgical phrases.

While the specific graphic shapes of these “Simanei Nusach” are not unique, their *combination into a functional set of melodic markers for Jewish liturgy is new* and unique. There have been other attempts to create a set of such markers, but these particular graphic shapes have proven to be easy to include in educational software which teaches the chanting of Jewish liturgy.

There are 18 “Nusach Symbols” which are grouped according to function: eight “Simanim” are primarily Disjunctives or **Separators**, indicating that a phrase of text is coming to a pause, and ten “Simanim” are primarily Conjunctives or **Joiners**, indicating that a text phrase is beginning or continuing. In this manner, “Simanei Nusach” function for the chanting of Jewish liturgy as the “Ta’amei HaMikra” or “Trope” function for the cantillation or chanting of the Hebrew Bible.

Within a specific “Nusach” or “musical prayer mode”, each of these “Simanim” or “symbols” indicates a specific musical motif. In different types of “Nusach” which are used for various Jewish liturgical occasions, the functions of these 18 “Simanei Nusach” or “Nusach Symbols” remain essentially the same. “Simanim” which show the beginning or continuation of phrases, or those which show phrase endings, are similar in each type of “Nusach” musical prayer mode.

While the primary method of categorizing the 18 “Simanei Nusach” is as Joiners and Separators, there are really three categories of function for these “Nusach Symbols”. These are: “Openers”, “Linkages”, and “Pausals”. This is not an exact science, and occasionally the “Simanim” which are designated as “Linkages” function more like “Openers” or “Pausals”. However, this basic symbol system works well to indicate phrasing of Hebrew prayer texts within each paragraph.

“Simanei Nusach” are a graphical system which can indicate the melodic prayer motifs for learners who do not read music, and they may be included with printed music for those learners who do read music. These “Nusach Symbols” can be printed or handwritten over the Hebrew words of Jewish liturgical texts, and they help clearly indicate where phrases begin and end within sentences. This function serves as an aid to more accurate translation and understanding of the Hebrew prayer texts.

Below are charts which indicate two different ways of categorizing the 18 “**Simanei Nusach**”:

**Chart 1:**

<b>Conjunctives / Joiners</b>		(from strongest to weaker)
▲	<b>Triangle</b>	Primary Opening motif
↑	<b>Left Arrow</b>	Re-opening or Continuing
┐	<b>Hook</b>	Short Extension
~	<b>Tilde</b>	Extension upward
∞	<b>Infinity</b>	Extension downward
*	<b>Asterisk</b>	Blessing near a paragraph end
U	<b>Upward “U”</b>	Elaboration Higher
∩	<b>Downward “U”</b>	Elaboration Lower
↗	<b>Up Arrow</b>	Modulate upwards briefly
△	<b>Open Triangle</b>	Opening in a different Nusach
<b>Disjunctives / Separators</b>		(from strongest to weaker)
■	<b>Square</b>	Closing motif – Sof Pasuk
●	<b>Circle</b>	Strong Pausal – Etnachta
×	<b>Letter “X”</b>	Medium Pausal or Penultimate
	<b>Double Line</b>	Shorter Medium Pausal
	<b>Triple Lines</b>	Longer Medium Pausal
↙	<b>Down Arrow</b>	Return from Modulation
□	<b>Open Square</b>	Closing in a different Nusach
○	<b>Open Circle</b>	Pausal in a different Nusach

**Chart 2:**

<b>Openers</b>	Triangle	▲	Primary Opening motif
	Open Triangle	△	Opening in a different Nusach
	Left Arrow	↑	Re-opening or Continuing
	Asterisk	*	Blessing near a paragraph end
<b>Linkages</b>	Hook	┐	Short Extension
	Tilde	~	Extension upward
	Infinity	∞	Extension downward
	Upward “U”	U	Elaboration Higher
	Downward “U”	∩	Elaboration Lower
	Up Arrow	↗	Modulate upward briefly
	Down Arrow	↙	Return from Modulation
<b>Pausals</b>	Square	■	Closing motif – Sof Pasuk
	Circle	●	Strong Pausal – Etnachta
	Open Square	□	Closing in a different Nusach
	Open Circle	○	Pausal in a different Nusach
	Letter “X”	×	Medium Pausal or Penultimate
	Double Line		Shorter Medium Pausal
	Triple Lines		Longer Medium Pausal

## *“Simanei Nusach” - New Graphic Symbols for Nusach HaT'fillah*

### ***Nusach HaT'fillah***

page 1 of 2

*“Musical prayer modes”* used during the chanting of Jewish liturgy, consisting of melodic motifs based on modal scales, used to indicate liturgical occasions and specific sections of worship services.

### ***Ta'amei HaMikra***

*“Accents of Reading” or Trope* in the printed text of Hebrew Bibles, consisting of 28 ancient graphic symbols which delineate the punctuation, accentuation, and chanting of words and phrases in the Hebrew Bible.

### ***Simanei Nusach***

*“Nusach Symbols”* (literally *“Symbols of Nusach”*), a system of graphic symbols used to indicate melodic motifs, phrasing, and word stress in liturgical chanting. These have been developed by Cantor Neil Schwartz and Thomas Buchler for the teaching of Jewish liturgical chant in software and other teaching modalities.

*“Simanei Nusach” or “Nusach Symbols”* are a new system of graphic symbols which are used to indicate specific liturgical melody motifs in the chanting of Jewish liturgy. These graphic symbols also delineate the punctuation of phrases within the liturgical texts, and the musical shaping of specific melodic motifs indicates stress on important words within liturgical phrases.

While the individual graphic shapes of these *“Simanei Nusach”* may not be unique, their combination into a functional set of melodic markers for Jewish liturgy is new and unique. There have been previous attempts to create a set of such markers, but these particular graphic shapes have proven to be easy to use as symbols for the musical motifs used in the chanting of Jewish liturgy.

There are **18** *“Simanei Nusach”* or *“Nusach Symbols”* which are paired by function:

Nine *“Simanim”* are primarily *Disjunctives* or **Separators**, indicating that a phrase of liturgical text is coming to a pause.

Nine *“Simanim”* are primarily *Conjunctives* or **Joiners**, indicating that a liturgy phrase is beginning or continuing. Of these, six can also function as *Disjunctives*.

In this manner, *“Simanei Nusach”* function for the chanting of Jewish liturgy in a manner which is similar to the way *“Ta'amei HaMikra”* or *“Trope”* function for the Cantillation or chanting of the Hebrew Bible, reflecting the punctuation and meaning of the sacred text.

Within a specific *“Nusach HaT'fillah”* or “musical prayer mode”, each of these *“Simanei Nusach”* or *“Nusach Symbols”* indicates a specific musical motif. In different types of *“Nusach HaT'fillah”* that are chanted on various Jewish liturgical occasions, the functions of these 18 new *“Simanei Nusach”* or *“Nusach Symbols”* remain essentially the same. *“Simanim”* which show the beginning or continuation of phrases, or those which show phrase endings, are similar in each type of *“Nusach HaT'fillah”* musical prayer mode.

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“*Simanei Nusach*” are a *graphical system* which can indicate the *melodic prayer motifs* for learners who do not read music, and they may be included with printed music for learners who do read music. These “*Nusach Symbols*” can be printed or drawn over the Hebrew words of Jewish liturgical texts, and they help indicate where phrases begin and end within sentences. This function serves as an aid to more accurate translation and understanding of Hebrew prayer texts, just as Cantillation symbols show phrasing in Hebrew Bible texts.

Shape	Symbol Name	General Function	Type	Punctuation
◀	Dark Triangle	Primary <b>Opening</b>	( <b>basic</b> )	<i>Conjunctive</i>
◁	Open Triangle	<i>Secondary Opening</i>	( <i>extra</i> )	<i>Conjunctive</i>
←	Left Arrow	<b>Continuation</b> or Re-opening	( <b>basic</b> )	<i>Conj. \ Disj.</i>
⤿	Hook	<b>Continuation</b> Upward	linkage	<i>Conj. \ Disj.</i>
~	Tilde	<b>Extension</b> Upward	( <b>basic</b> )	<i>Conj. \ Disj.</i>
∞	Infinity	<b>Extension</b> Downward	linkage	<i>Conj. \ Disj.</i>
U	Upward “U”	<b>Elaboration</b> Upward	linkage	<i>Conj. \ Disj.</i>
∩	Downward “U”	<b>Elaboration</b> Downward	linkage	<i>Conj. \ Disj.</i>
↗	Up Arrow	<b>Modulation</b> Upward	linkage	<i>Conjunctive</i>
↘	Down Arrow	<b>Modulation</b> Downward	linkage	<i>Disjunctive</i>
	Double Lines	Shorter <b>Medium Pausal</b>	( <b>basic</b> )	<i>Disjunctive</i>
	Triple Lines	Longer <b>Medium Pausal</b>	( <i>extra</i> )	<i>Disjunctive</i>
●	Dark Circle	Primary <b>Strong Pausal</b>	( <b>basic</b> )	<i>Disjunctive</i>
○	Open Circle	<i>Secondary Strong Pausal</i>	( <i>extra</i> )	<i>Disjunctive</i>
×	Letter “X”	<b>Penultimate</b> or Med. Pausal	( <i>extra</i> )	<i>Disjunctive</i>
*	Asterisk	<b>End Blessing</b> or Penultimate	( <b>basic</b> )	<i>Disjunctive</i>
■	Dark Square	Primary <b>Closing</b>	( <b>basic</b> )	<i>Disjunctive</i>
□	Open Square	<i>Secondary Closing</i>	( <i>extra</i> )	<i>Disjunctive</i>

“Simanei Nusach” – Graphic Symbols for *Nusach HaT’fillah* (Prayer-Modes)

Here are the new “*Simanei Nusach*” (“Symbols of *Nusach*”) **graphic symbols**, with the **general** and **punctuation functions** of their musical motifs compared to *Ta’amei HaMikra*.

Types: (**basic**) = in **simpler** modes / (*extra*) = when *needed* / linkage = in elaborate modes

Shape	Symbol Name	General <b>Function</b>	<b>Trope</b>	Punctuation
◀	Dark Triangle	Primary <b>Opening</b>	Mapach	<i>Conjunctive</i>
◁	Open Triangle	<i>Secondary Opening</i>	Kadma	<i>Conjunctive</i>
←	Left Arrow	<b>Continuation</b> / Re-opening	Munach	<b>Conj.</b> \ Disj.
⤿	Hook	<b>Continuation</b> Upward	Mer'cha	<b>Conj.</b> \ Disj.
~	Tilde	<b>Extension</b> Upward	Pashta	<i>Conj.</i> \ <b>Disj.</b>
∞	Infinity	<b>Extension</b> Downward	L'Garmeih	<i>Conj.</i> \ <b>Disj.</b>
U	Upward “U”	<b>Elaboration</b> Upward	Pazeir	<i>Conj.</i> \ <b>Disj.</b>
∩	Downward “U”	<b>Elaboration</b> Downward	T. G'dolah	<i>Conj.</i> \ <b>Disj.</b>
↗	Up Arrow	<b>Modulation</b> Upward	Zarka	( <i>Conjunctive</i> )
↘	Down Arrow	<b>Modulation</b> Downward	<b>Segol</b>	<b>Disjunctive</b>
	Double Lines	Shorter <b>Medium Pausal</b>	<b>Zkf. Katon</b>	<b>Disjunctive</b>
	Triple Lines	Longer <b>Medium Pausal</b>	Zkf. Gadol	Disjunctive
●	Dark Circle	Primary <b>Strong Pausal</b>	<b>Etnachta</b>	<b>Disjunctive</b>
○	Open Circle	<i>Secondary Strong Pausal</i>	Etnachta	Disjunctive
×	Letter “X”	<b>Penultimate</b> / Med. Pausal	<b>R'vi-a</b>	<b>Disjunctive</b>
*	Asterisk	End <b>Blessing</b> / Penultimate	T'vir	Disjunctive
■	Dark Square	Primary <b>Closing</b>	<b>Silluk</b>	<b>Disjunctive</b>
□	Open Square	<i>Secondary Closing</i>	Silluk	Disjunctive

Continuations, Extensions and Elaborations can function as *Conjunctives* or as Disjunctives

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## Biography

Cantor Neil Schwartz was raised in Northern Minnesota, and he received his B.A. in Religion from Carleton College in 1975. He received Investiture and the Diploma of Hazzan from the Jewish Theological Seminary in New York City in 1980, and the Commission of Hazzan from the Cantors Assembly. He is now also a member of the American Conference of Cantors and the Guild of Temple Musicians, and he received an Honorary Doctorate of Music from JTS.

Neil Schwartz served as Cantor for synagogues in Ohio, New Jersey, Pennsylvania, Tennessee, and Saskatchewan, where he was the sole clergy of a small congregation. He also earned five Units of Clinical Pastoral Education Chaplaincy Training, and he served as the Jewish Chaplain at the University of Saskatchewan. Neil has been a Life Member of CAJE, the Coalition for the Advancement of Jewish Education, and now is active in its successor organization, NewCAJE.

Since 2007, Neil has been the Sacred Music Consultant on the staff of Kinnor Software, makers of *Tefillah Trainer*<sup>™</sup> teaching software. He developed the graphic symbols for the chanting of Jewish liturgy as a teaching tool for the *IMUN Program* of United Synagogue, and he has used them in the music of *Tefillah Trainer*. Neil is also on the Faculty of Hebrew College in Boston since Fall Term 2009, using these new *Simanei Nusach* graphic symbols in his online courses.